

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 8-15-03  
Art Unit: 1752 Phone Number 30 5-0504 Serial Number: 09/995,921  
Mail Box and Bldg/Room Location: 9805 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

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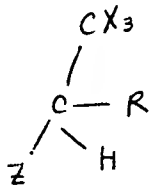
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Photoresist composition  
Inventors (please provide full names): Koes, Thomas A. ; Johnson, Todd

Earliest Priority Filing Date: 11-28-'01

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for a photoresist or photosensitive composition comprising the following compound:



~~X = Fluorine or Iodine  
Z = silyl, aryl, substituted aryl, ester~~

For the definitions of the variables,  
please see Claim # 1.

(Cl. # 4 lists more specific examples for the compound)

## STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>Ed</u>	NA Sequence (#) _____ STN <u>770.56</u>	
Searcher Phone #: _____	AA Sequence (#) _____ Dialog _____	
Searcher Location: _____	Structure (#) <u>(1)</u> Questel/Orbit _____	
Date Searcher Picked Up: _____	Bibliographic <u>(and)</u> Link _____	
Date Completed: <u>8-19-03</u>	Litigation _____ Lexis/Nexis _____	
Searcher Prep & Review Time: <u>10</u>	Fulltext _____ Sequence Systems _____	
Clerical Prep Time: _____	Patent Family _____ WWW/Internet _____	
Online Time: <u>115</u>	Other _____ Other (specify) _____	

=> file reg

FILE 'REGISTRY' ENTERED AT 17:05:29 ON 19 AUG 2003  
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=> display history full l1-

FILE 'LREGISTRY' ENTERED AT 16:09:58 ON 19 AUG 2003  
L1 STR

FILE 'REGISTRY' ENTERED AT 16:15:03 ON 19 AUG 2003  
L2 1 SEA SSS SAM L1  
L3 SCR 1364  
L4 38 SEA SSS SAM L1 AND L3  
L5 5569 SEA SSS FUL L1 AND L3  
SAV L5 LEE921/A

FILE 'HCA' ENTERED AT 16:23:52 ON 19 AUG 2003  
L6 26091 SEA L5  
L7 141004 SEA PHOTORESIST? OR RESIST OR RESISTS OR PHOTOMASK? OR  
MASK?  
L8 77 SEA L6 AND L7

FILE 'REGISTRY' ENTERED AT 16:24:35 ON 19 AUG 2003  
L9 5365 SEA L5 NOT PMS/CI

FILE 'HCA' ENTERED AT 16:24:43 ON 19 AUG 2003  
L10 25962 SEA L9  
L11 77 SEA L10 AND L7

FILE 'HCAPLUS' ENTERED AT 16:26:36 ON 19 AUG 2003  
L12 64 SEA KOES ?/AU  
L13 74403 SEA JOHNSON ?/AU  
L14 1 SEA L12 AND L13  
SEL L14 1 RN

FILE 'REGISTRY' ENTERED AT 16:27:17 ON 19 AUG 2003  
L15 3 SEA (1076-97-7/BI OR 428860-93-9/BI OR 55135-32-5/BI)

L16 1 SEA L15 AND X/ELS

FILE 'HCA' ENTERED AT 16:28:18 ON 19 AUG 2003  
L17 4 SEA L16  
L18 2 SEA L17 AND L7  
L19 72724 SEA PHOTORESIST? OR RESIST OR RESISTS  
L20 51 SEA L10 AND L19

FILE 'LREGISTRY' ENTERED AT 16:32:24 ON 19 AUG 2003  
E BENZENE/CN

L21 1 SEA BENZENE/CN

FILE 'REGISTRY' ENTERED AT 16:38:19 ON 19 AUG 2003

L22 2471 SEA L9 AND 46.150.18/RID

L23 749 SEA L22 AND 1/NRS

L24 527 SEA L23 AND O/ELS

FILE 'HCA' ENTERED AT 16:42:25 ON 19 AUG 2003

L25 218 SEA L24

L26 0 SEA L25 AND L7

L27 178396 SEA BINDER?

L28 247382 SEA CROSSLINK? OR CROSS?(2A) LINK?

L29 2 SEA L8 AND L27

L30 13 SEA L8 AND L28

L31 399 SEA STRIP?(3A) ENHANC?

L32 0 SEA L8 AND L31

L33 0 SEA L8 AND STRIP?

FILE 'REGISTRY' ENTERED AT 16:56:47 ON 19 AUG 2003

E 9-PHENYLACRIDINE/CN

L34 1 SEA 9-PHENYLACRIDINE/CN

E N-PHENYLGLYCINE/CN

L35 1 SEA N-PHENYLGLYCINE/CN

E BENZOPHENONE/CN

L36 1 SEA BENZOPHENONE/CN

L37 9966 SEA ?BENZOPHENON?/CNS

FILE 'HCA' ENTERED AT 17:00:42 ON 19 AUG 2003

L38 65651 SEA L34 OR L35 OR L36 OR L37 OR ?BENZOPHENON?

L39 6 SEA L8 AND L38

L40 18 SEA L18 OR L29 OR L30 OR L39

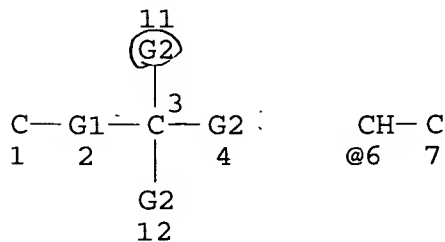
L41 35 SEA L20 NOT L40

L42 26 SEA L8 NOT (L40 OR L41)

FILE 'REGISTRY' ENTERED AT 17:05:29 ON 19 AUG 2003

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L1 STR



VAR G1=CH2/6

VAR G2=CL/BR/I

NODE ATTRIBUTES:

NSPEC IS RC AT 1  
NSPEC IS RC AT 7  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 8

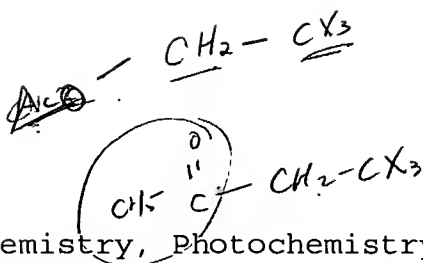
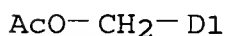
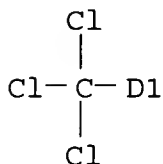
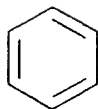
STEREO ATTRIBUTES: NONE  
L3 SCR 1364  
L5 5569 SEA FILE=REGISTRY SSS FUL L1 AND L3

100.0% PROCESSED 172578 ITERATIONS 5569 ANSWERS  
SEARCH TIME: 00.00.02

=> file hca  
FILE 'HCA' ENTERED AT 17:06:34 ON 19 AUG 2003 .  
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=> d l40 1-18 cbib abs hitstr hitind

L40 ANSWER 1 OF 18 HCA COPYRIGHT 2003 ACS on STN  
136:409028 **Photoresist** composition with improved stripping  
properties. Koes, Thomas A.; Johnson, Todd (Shipley Co. L.L.C.,  
USA). Eur. Pat. Appl. EP 1209528 A1 ~~20020529~~ 16 pp. DESIGNATED  
STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR. (English). CODEN:  
EPXXDW. APPLICATION: EP 2001-309903 20011123. PRIORITY: US  
2000-PV253531 20001128.  
AB This invention disclosed **photoresist** compns. having  
improved stripping properties. The compns. contain a polymeric  
binder, photocurable components, photoinitiators, a strip enhancer  
and optionally a crosslinking agent, wherein the strip enhancer is  
non-polymerizable with the polymeric binder or the crosslinking  
agent. Also disclosed are methods of enhancing the strippability of  
**photoresist** compns. and methods for manufg. printed wiring  
boards using such **photoresist** compns.  
IT 55135-32-5, Trichloromethylbenzyl acetate  
(strip enhancer in neg. **photoresist** compn.)  
RN 55135-32-5 HCA  
CN Benzenemethanol, ar-(trichloromethyl)-, acetate (9CI) (CA INDEX  
NAME)

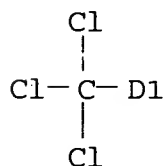
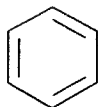


- IC ICM G03F007-42
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38
- ST neg **photoresist** strip enhancer
- IT Acrylic polymers, uses  
(binder resin in neg. **photoresist** compn.)
- IT Negative **photoresists**  
(neg. **photoresist** compn. contg. trip enhancer)
- IT 1076-97-7, 1,4-Cyclohexane dicarboxylic acid  
(org. acid used in neg. **photoresist** compn.)
- IT 428860-93-9P  
(photo-curable component in neg. **photoresist** compn.)
- IT 55135-32-5, Trichloromethylbenzyl acetate  
(strip enhancer in neg. **photoresist** compn.)
- L40 ANSWER 2 OF 18 HCA COPYRIGHT 2003 ACS on STN
- 136:409027 **Photoresist** composition with improved stripping properties. Koes, Thomas A. (Shipley Company LLC, USA). Eur. Pat. Appl. EP 1209527 A1 (20020529, 14 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR. (English). CODEN: EPXXDW. APPLICATION: EP 2001-309900 20011123. PRIORITY: US 2000-PV253452 20001128.
- AB This invention disclosed **photoresist** compns. having improved stripping properties. The compns. contain a polymeric binder, photocurable components, photoinitiators, an org. acid and optionally a crosslinking agent, wherein the org. acid is non-polymerizable with the polymeric binder or the crosslinking agent. Also disclosed are methods of enhancing the strippability of **photoresist** compns. and methods for manufg. printed wiring boards using such **photoresist** compns.
- IT 55135-32-5, Trichloromethylbenzyl acetate

(strip enhancer in neg. **photoresist** compn.)

RN 55135-32-5 HCA

CN Benzenemethanol, ar-(trichloromethyl)-, acetate (9CI) (CA INDEX NAME)

AcO-CH<sub>2</sub>-D1

IC ICM G03F007-42

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38ST neg **photoresist** org acid

IT Acrylic polymers, uses

(binder resin in neg. **photoresist** compn.)IT Negative **photoresists**(neg. **photoresist** compn. contg. org. acid)

IT Acids, uses

(org.; neg. **photoresist** compn. contg.)

IT 111-20-6, Sebacic acid, uses 1076-97-7, 1,4-Cyclohexane dicarboxylic acid

(org. acid used in neg. **photoresist** compn.)

IT 428860-93-9P

(photo-curable component in neg. **photoresist** compn.)

IT 55135-32-5, Trichloromethylbenzyl acetate

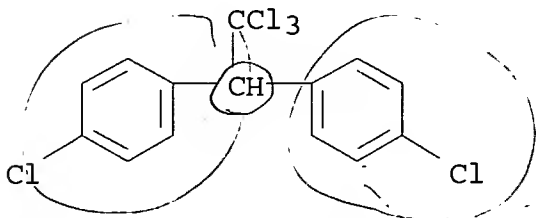
(strip enhancer in neg. **photoresist** compn.)

L40 ANSWER 3 OF 18 HCA COPYRIGHT 2003 ACS on STN

123:23619 Precision patterning materials and patterning of **resists** thereof. Hashimoto, Kazuhiko (Matsushita Electric Ind Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06267812 A2 19940922 Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-51953 19930312.AB The patterning involves (1) coating on a substrate with a silicon compd., novolak polymers, and an acid latent soln. contg. triphenylsulfonium salt to give a Si-contg. org. **resist** film, (2) electron beaming the **resist** film, (3) heating towe  
EP 1391  
instead

**crosslink** between the Si compds. and novolak polymers to give a Si-contg. polymer, (4) evapg. or sublimating the Si compds. from the electron-unexposed portions of the **resist** film, and (5) etching to remove the electron-unexposed portions in the film to give patterned **resist**. The process provides the patterns with high sensitivity, resoln., and contrast.

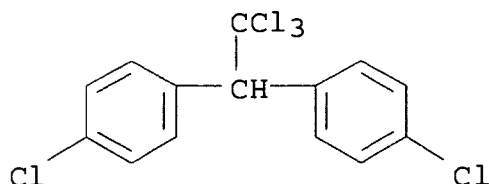
IT 50-29-3D, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, salts  
(acid-latent **crosslinking** catalyst for novolak/silicon-contg. polymer mixt.)  
RN 50-29-3 HCA  
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM H01L021-027  
ICS G03F007-075; G03F007-20; G03F007-40  
CC 76-2 (Electric Phenomena)  
Section cross-reference(s): 38  
ST silicon compd novolak polymer **crosslinking resist**  
; triphenylsulfonium salt acid latent catalyst **crosslinking**  
IT Siloxanes and Silicones, properties  
(**crosslinked** copolymers with novolak polymers for **resists**)  
IT **Crosslinking** agents  
(electron-beam-activating acid-latent triphenylsulfonium salts for)  
IT Electron beam  
(for activation of acid-latent catalyst for **crosslinking** of polymers for **resists**)  
IT **Resists**  
(silicone-novolak copolymer with acid latent catalyst for formation of)  
IT Phenolic resins, properties  
(novolak, **crosslinked** copolymers with silicon-contg. materials for **resists**)  
IT 50-29-3D, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, salts 18393-55-0D, salts  
(acid-latent **crosslinking** catalyst for novolak/silicon-contg. polymer mixt.)  
IT 163964-80-5D, **crosslinked** copolymers with novolak polymers (for **resists**)

Toshuki; Tsuji, Akira (Japan Synthetic Rubber Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06130665 A2 19940513 Heisei, 16 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-276290 19921014.

- AB Pos.-working **resist** coating compn. comprises (1) alkali-sol. resin (A), (2) radiation-sensitive acid-generating agent, (3) a compd. which controls the alkali-soly. of the resin A and is decompd. in the presence of an acid to lose or lower the soly.-controlling effect of A or to accelerate the alkali-soly. of the resin A, and (4) R1COR2 (I: R1-2 = hydrocarbon and sum of C nos. of R1-2 = 5-12, or R1 and R2 may form a ring) as a solvent.
- Pos.-working **resist** coating compn. comprises (1) alkali-insol. resin with  $\geq 1$  acid-dissociative groups selected from substituted Me, 1-substituted Et, silyl, germyl alkoxy carbonyl and acyl, which becomes alkali-sol. in acid dissocn. of the groups, (2) a radiation-sensitive acid-generating agent and (3) I as a solvent. Neg.-working **resist** coating compn. comprises (1) alkali-sol. resin (A), (2) radiation-sensitive acid-generating agent, (3) a compd. which **crosslinks** the resin A in the presence of an acid, and (4) I as a solvent. The compn. shows good coatability, stability, and is sensitive to various kinds of radiations, and useful for **resist** giving fine patterns.
- IT 50-29-3, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, properties  
(acid-generator, **resist** using)
- RN 50-29-3 HCA
- CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



48 1391  
059

- IC ICM G03F007-038  
ICS G03F007-004; G03F007-028; G03F007-039; H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 76
- ST **resist** coating compn
- IT **Resists**  
(radiation-sensitive, coating soln. for, with good storage stability)
- IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate 119666-27-2  
(acid-generator, **resist** using)
- IT 50-29-3, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, properties  
(acid-generator, **resist** using)
- IT 3089-11-0



(crosslinking agents, resist contg.)

IT 5292-43-3D, reaction product with polyhydroxystyrene 34619-03-9D, Di-tert-butylcarbonate, reaction product with polyhydroxystyrene 59269-51-1, Polyhydroxystyrene 59269-51-1D, Polyhydroxystyrene, deriv.

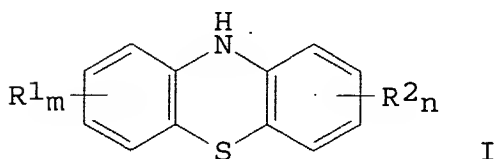
(resist from)

IT 106-35-4, 3-Heptanone 110-43-0, 2-Heptanone 502-42-1, Cycloheptanone 823-76-7, Cyclohexyl methyl ketone 7379-12-6 (solvent, for resist coating compn.)

L40 ANSWER 5 OF 18 HCA COPYRIGHT 2003 ACS on STN

121:96051 Negative-working **photoresists** compositions useful for making semiconductor circuits. Kitaori, Tomoyuki; Koyanagi, Takao; Fukunaga, Masanori (Nippon Kayaku Kk, Japan). Jpn. Kokai Tokkyo Koho JP 06035194 A2 19940210 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-213264 19920720.

GI



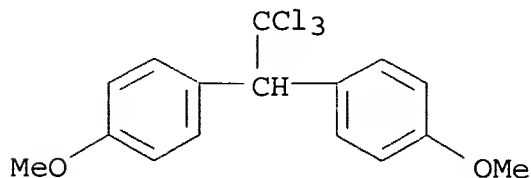
use 1391  
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AB The title compns. comprise an alkali-sol. resin, a photoacid-generating agent, a **crosslinking** agent which **crosslinks** the resin under acidic conditions, a sensitizer I [m, n = 1, 2; R1, R2 = CR3R4Ph, CR5R6CR7R8Ph (R3-8 = H, lower alkyl)] which provides photosensitivity in near UV regions to the photoacid-generating agent. The compns. useful for making semiconductor integrated circuits show high sensitivity toward radiations and provide high resoln. patterns with good thermal resistance and dry etching resistance. Thus, a **photoresist** comprised Maruka Lyncur S-2P (polyhydroxystyrene), CBr3SO2Ph, Cymel 1123, and Antage STDP-N.

IT 72-43-5, 2,2-Bis(4-methoxyphenyl)-1,1,1-trichloroethane (photoacid generator, **photoresist** contg.)

RN 72-43-5 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- (9CI) (CA INDEX NAME)



IC ICM G03F007-038  
ICS G03F007-004; G03F007-029; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 76

ST phenothiazine deriv sensitizer **photoresist**;  
**crosslinking** agent **photoresist**; photoacid  
generating agent **photoresist**

IT Phenolic resins, uses  
(**photoresist** from)

IT **Resists**  
(photo-, neg.-working, contg. phenothiazine derivs. sensitizer)

IT 9003-08-1, Cymel 303 9011-05-6, UFR 65 15968-37-3, Cymel 1170  
66810-89-7, Cymel 1123  
(**crosslinking** agent, **photoresist** contg.)

IT 72-43-5, 2,2-Bis(4-methoxyphenyl)-1,1,1-trichloroethane  
17025-47-7, Tribromomethylphenylsulfone 52434-90-9  
(photoacid generator, **photoresist** contg.)

IT 24979-71-3, Maruka Lyncur CMM 24979-74-6, Maruka Lyncur CST 70  
25086-36-6, m-Cresol-formaldehyde copolymer 54579-44-1, Bisphenol  
A-p-tert-butylphenol-formaldehyde copolymer  
(**photoresist** from)

IT 24979-70-2, Poly(p-hydroxystyrene)  
(**photoresist** from, Maruka Lyncur S 2P)

IT 38201-66-0P  
(prepn. of, sensitizer, of photoacid-generator,  
**photoresist** contg.)

IT 693-36-7, Antage STDP-N  
(sensitizer, of photoacid-generator, **photoresist**  
contg.)

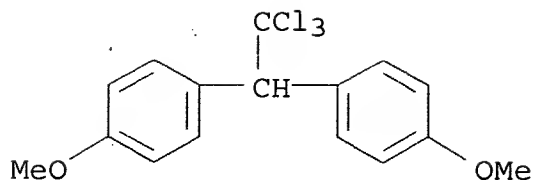
L40 ANSWER 6 OF 18 HCA COPYRIGHT 2003 ACS on STN  
117:36610 Acid-hardenable **photoresist**. Thackeray, James W.;  
Orsula, George W.; Canistro, Dianne; Mcilnay, Susan E. (Shipley Co.,  
Inc., USA). Eur. Pat. Appl. (EP/462391) A2 19911227, 20 pp.  
DESIGNATED STATES: R: DE, FR, GB, IT, NL. (English). CODEN:  
EPXXDW. APPLICATION: EP 1991-107484 19910508. PRIORITY: US  
1990-540116 19900619.

AB A method of forming a **photoresist** image comprises use of a  
neg.-acting, acid-hardenable, deep-UV **photoresist**  
comprising a phenolic resin having ring-bonded hydroxyl groups, a  
thermally activated **crosslinking** agent that is an  
etherified aminoplast, and a photosensitive acid generator. The  
molar ratio of the ring-bonded hydroxyl groups of the phenolic resin  
to other groups of the aminoplast is controlled, permitting  
optimization of the properties such as optical absorbance, dissoln.  
rate, photospeed, contrast, resoln., and sidewall angle.

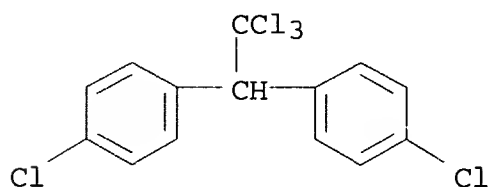
IT 72-43-5, Methoxychlor  
(photoacid generator,s for **photoresist** compn.)

RN 72-43-5 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- (9CI) (CA.  
INDEX NAME)



IT 50-29-3, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, uses  
(photosensitive acid generator, for **photoresist**  
compns.)  
RN 50-29-3 HCA  
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA  
INDEX NAME)

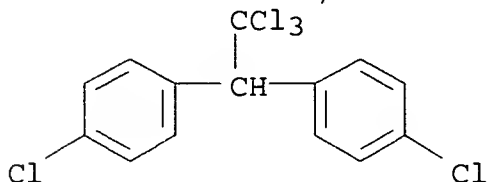


IC ICM G03F007-038  
ICS G03F007-029  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
ST **photoresist** photosensitive acid generator aminoplast  
IT Rubber, synthetic  
(photosensitive acid generator, for **photoresist**  
compns.)  
IT **Resists**  
(photo-, acid-hardenable)  
IT 3089-11-0 9003-08-1D, alkoxyated 9016-83-5, Cresol-formaldehyde  
copolymer 59269-51-1, Polyvinylphenol  
(acid-hardenable **photoresist** compns. contg.)  
IT 72-55-9, uses 52434-90-9, Tris[2,3-dibromopropyl]isocyanurate  
(photoacid generator, for **photoresist** compn.)  
IT 72-43-5, Methoxychlor  
(photoacid generator,s for **photoresist** compn.)  
IT 50-29-3, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, uses  
58-89-9 72-54-8, 1,1-Bis[p-chlorophenyl]-2,2-dichloroethane  
1929-82-4, 2-Chloro-6-(trichloromethyl)pyridine 2921-88-2, Dursban  
3064-70-8, Hexachlorodimethylsulfone 3194-55-6,  
1,2,5,6,9,10-Hexabromocyclododecane 4101-68-2, 1,10-Dibromodecane  
81012-95-5 112367-96-1  
(photosensitive acid generator, for **photoresist**  
compns.)

L40 ANSWER 7 OF 18 HCA COPYRIGHT 2003 ACS on STN  
116:140144 **Photoresists** for broadband light source. Kasuga,

Taku (Sony Corp., Japan). Jpn. Kokai Tokkyo Koho JP 03276156 A2 19911206 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-78189 19900327.

- AB The title **resists** contain .gtoreq.1 photosensitive agents sensitive at different wavelengths. These **resists** are useful in fabrication of **resist** patterns with square profile. Thus, a **resist** based on novolak resin and contg. 1,2-quinonediazide-4-sulfonate ester (sensitive to longer wavelength) (I), alkoxymethylmelamine (II) (sensitive to shorter wavelength), and 1,1,1-trichloro-2,2-di(p-chlorophenyl)ethane (III) (as acid-generating agent activated by shorter wavelength), was patterned by exposure to deep- to near-UV broad-band light source. At the surface, **crosslinking** due to II and III predominates and a layer with reduced soly. is formed. Under the surface, the shorter wavelength is absorbed by the **resist**, and dissoln. produced by decompn. of I predominates. This provided **resist** pattern with square profile and .ltoreq.0.35 .mu.m resolu.
- IT 50-29-3, 1,1,1-Trichloro-2,2-di(p-chlorophenyl)ethane, uses (**photoresists** for broadband light source contg. photosensitive agents for longer wavelength and, for **resist** patterns with square profile)
- RN 50-29-3 HCA
- CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



- IC ICM G03F007-004  
ICS G03F007-022; G03F007-038; G03F007-26; H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST **photoresist** broadband light source exposure
- IT Phenolic resins, uses (**photoresists** for broadband light source contg. multiple photosensitive agents and, for **resist** patterns with square profile)
- IT **Resists** (photo-, for broadband light source, for **resist** patterns with square profile, multiple photosensitive materials contained in)
- IT 108-78-1D, 1,3,5-Triazine-2,4,6-triamine, alkoxymethyl derivs. (**photoresists** for broad band lightsource contg. photosensitive agents for longer wavelength and, for **resist** patterns with square profile)
- IT 50-29-3, 1,1,1-Trichloro-2,2-di(p-chlorophenyl)ethane, uses

(**photoresists** for broadband light source contg. photosensitive agents for longer wavelength and, for **resist** patterns with square profile)

IT 20546-03-6D, 1,2-Naphthoquinonediazide-5-sulfonic acid, esters  
(**photoresists** for broadband light source contg. photosensitive agents for shorter wavelength and, for **resist** patterns with square profile)

L40 ANSWER 8 OF 18 HCA COPYRIGHT 2003 ACS on STN

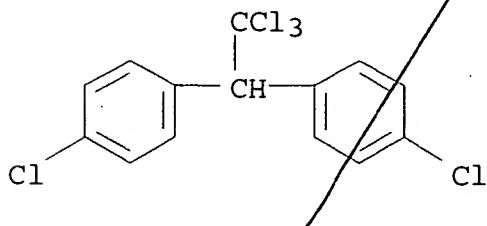
116:48952 Photosensitive resin compositions. Tsumori, Toshiro (Sony Corp., Japan). Jpn. Kokai Tokkyo Koho JP 03229255 A2 19911011 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-23712 19900202.

AB The compns. contain acid-activated **crosslinking** agent, photoactivated acid generator, base resin, and added photobleachable dye. Alternatively, the compns. may contain acid-decompd. dissoln. inhibitor, photoactivated acid generator, base resin, and photobleachable dye. The light-quenching dye are typically disilanes R1R2R3SiSiR4R5R6- (R1-6 = aryl, alkyl). Addn. of these photodecomposable dyes increases the light transmission in exposed part and increases the resoln. of formed pattern.

IT 50-29-3, DDT, uses  
(as photoactivated acid generator, chem. amplification **photoresists** contg. photodecomposable dye and)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-004

ICS G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **photoresist** chem amplification photodecomposable dye

IT **Resists**  
(photo-, chem. amplification, disilane photodecomposable dye, for increased resoln.)

IT 9003-08-1  
(as acid-activated **crosslinking** agent, chem. amplification **photoresists** contg. photodecomposable dye and)

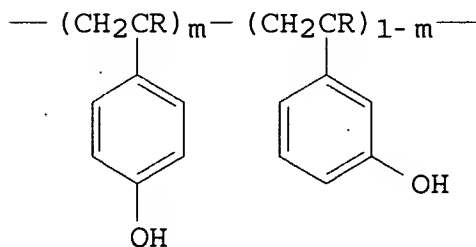
IT 80-05-7D, Bisphenol A, t-BOC adduct  
(as acid-decompd. dissoln. inhibitor, chem. amplification **photoresists** contg. photodecomposable dye and)

IT 50-29-3, DDT, uses

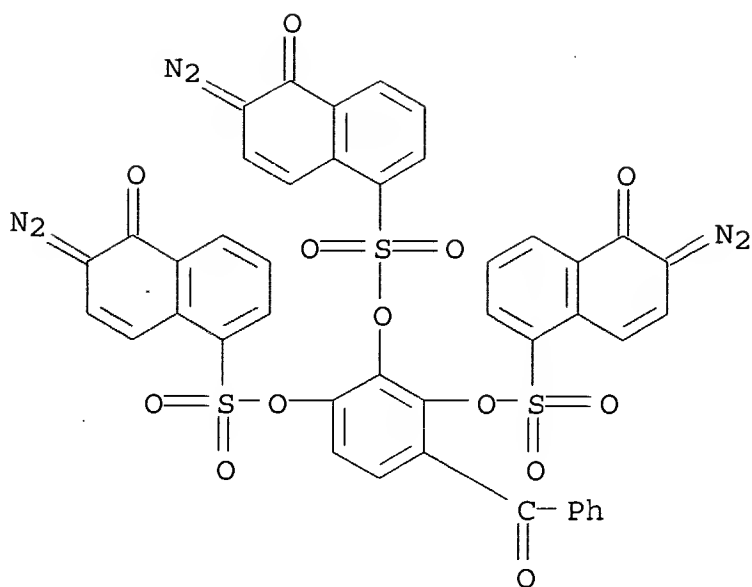
- (as photoactivated acid generator, chem. amplification **photoresists** contg. photodecomposable dye and)
- IT 59269-51-1, Poly(vinylphenol)  
(chem. amplification **photoresists** contg. photodecomposable dye and)
- IT 1172-76-5  
(photodecomposable dye, chem. amplification **photoresists** contg., for increased resoln.)

L40 ANSWER 9 OF 18 HCA COPYRIGHT 2003 ACS on STN  
114:218113 **Photoresist** compositions. Todoko, Masaaki;  
Yamamoto, Takashi; Kiyota, Toru (Tosoh Corp., Japan). Jpn. Kokai  
Tokkyo Koho JP 02253262 A2 19901012 Heisei, 5 pp. (Japanese).  
CODEN: JKXXAF. APPLICATION: JP 1989-73994 19890328.

GI



- AB **Photoresist** compns. consist of polymers I (R = H, C1-5 alkyl; m = 0.95-0.75), photosensitive agents, and solvents. These compns. are developable with alk. developers and provide highly accurate fine patterns without loss of thickness. Thus, 3 g 13:87 (mol) m-hydroxystyrene-p-hydroxystyrene copolymer and 0.62 g naphthoquinone-1,2-diazide-5-sulfonate ester of 2,3,4-**trihydroxybenzophenone** were dissolved and applied to a Si wafer, prebaked, exposed to UV through a Cr **mask**, developed with aq. Me<sub>4</sub>NOH, and postbaked to obtain a pattern with rectangular profile having 0.75- $\mu$ m lines and spaces, with high sensitivity and 90% retention of layer thickness.
- IT 5610-94-6  
(**photoresists** contg. hydroxystyrene copolymers and)
- RN 5610-94-6 HCA
- CN 1-Naphthalenesulfonic acid, 6-diazo-5,6-dihydro-5-oxo-,  
4-benzoyl-1,2,3-benzenetriyl ester (9CI) (CA INDEX NAME)

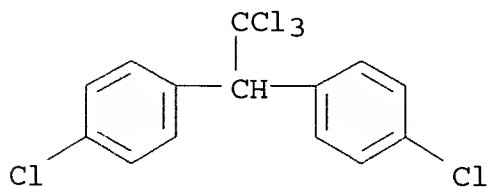


IT 50-29-3, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses and miscellaneous

(**photoresists** contg. hydroxystyrene copolymers and acetylene compd. and)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-022

ICS G03F007-008; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **photoresist** hydroxystyrene copolymer alkali developable

IT **Resists**

(photo-, hydroxystyrene copolymer contained in, alkali-developable)

IT 5610-94-6 75742-13-1, 3,3'-Diazidodiphenylsulfone

(**photoresists** contg. hydroxystyrene copolymers and)

IT 50-29-3, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses and miscellaneous

(**photoresists** contg. hydroxystyrene copolymers and acetylene compd. and)

IT 133793-11-0

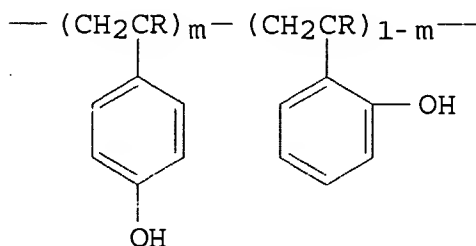
(photoresists contg. hydroxystyrene copolymers and acid-generating agents and)

IT 133685-94-6, o-Hydroxystyrene-p-hydroxystyrene copolymer (photoresists contg., alkali-developable)

L40 ANSWER 10 OF 18 HCA COPYRIGHT 2003 ACS on STN

114:218112 Photoresist compositions. Todoko, Masaaki; Yamamoto, Takashi; Kiyota, Toru (Tosoh Corp., Japan). Jpn. Kokai Tokkyo Koho JP 02253261 A2 19901012 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-73993 19890328.

GI



AB Photoresist compns. consist of polymers I (R = H, C1-5 alkyl; m = 0.40-0.60), photosensitive agents, and solvents. These compns. are developable with alk. developers and provide highly accurate fine patterns without loss of thickness. Thus, 3 g 42:58 (mol) o-hydroxystyrene-p-hydroxystyrene copolymer and 0.62 g naphthoquinone-1,2-diazide-5-sulfonate ester of 2,3,4-trihydroxybenzophenone were dissolved and applied to a Si wafer, prebaked, exposed to UV through a Cr mask, developed with aq. Me4NOH, and postbaked to obtain a pattern with rectangular profile having 0.75-.mu.m lines and spaces, with high sensitivity and 93% retention of layer thickness.

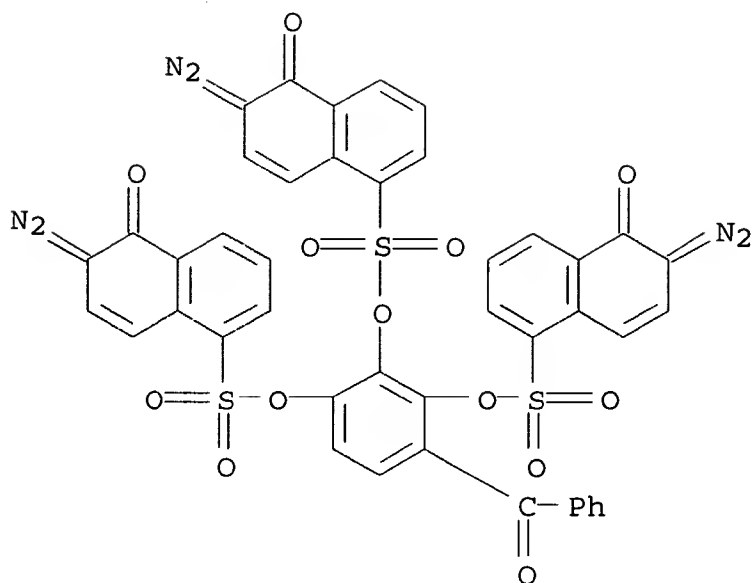
IT 5610-94-6

(photoresists contg. hydroxystyrene copolymers and)

RN 5610-94-6 HCA

CN 1-Naphthalenesulfonic acid, 6-diazo-5,6-dihydro-5-oxo-, 4-benzoyl-1,2,3-benzenetriyl ester (9CI) (CA INDEX NAME)



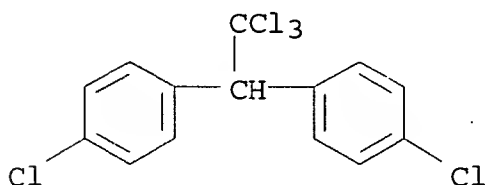


IT 50-29-3, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses and miscellaneous

(photoresists contg. hydroxystyrene copolymers and acetylene compd. and)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-022

ICS G03F007-008; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photoresist hydroxystyrene copolymer alkali developable

IT Resists

(photo-, hydroxystyrene copolymer contained in, alkali-developable)

IT 5610-94-6 75742-13-1, 3,3'-Diazidodiphenylsulfone

(photoresists contg. hydroxystyrene copolymers and)

IT 50-29-3, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses and miscellaneous

(photoresists contg. hydroxystyrene copolymers and acetylene compd. and)

- IT 15968-37-3  
(**photoresists** contg. hydroxystyrene copolymers and acid-generating agents and)
- IT 133685-94-6  
(**photoresists** contg., alkali-developable)
- L40 ANSWER 11 OF 18 HCA COPYRIGHT 2003 ACS on STM
- 113:162352 Chemically amplified **resists** for i-line and g-line applications. Berry, A. K.; Feely, W. E.; Thompson, S. D.; Calabrese, G. S.; Sinta, R.; Lamola, A. A.; Thackeray, J. W.; Orsula, G. W. (Rohm and Haas Co., Spring House, PA, 19477, USA). Proceedings of SPIE-The International Society for Optical Engineering, 1262 (Adv. Resist Technol. Process. 7), 575-84 (English) 1990. CODEN: PSISDG. ISSN: 0277-786X.
- AB Phenothiazine and benzophenothiazine derivs. which are useful as i-line and g-line photosensitizers for a class of chem. amplified **crosslinked resists** were evaluated. Data supporting an electron transfer mechanism of sensitization from the excited state of the sensitizer to the acid generator are provided. Initial lithog. screening demonstrates the potential for both high sensitivity and submicron resolu. in these systems.
- IT 72-43-5, 2,2-Bis(4-methoxyphenyl)-1,1,1-trichloroethane (neg. **resist** compn. contg. novolak and photosensitizer and, for i-line and g-line lithog.)
- RN 72-43-5 HCA
- CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- (9CI) (CA INDEX NAME)
- 
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 22
- ST phenothiazine benzophenothiazine photosensitizer **photoresist** submicron; lithog submicron photosensitizer **photoresist**; chem amplified **photoresist** photosensitizer
- IT Electron exchange  
(from photosensitizer acid generator in **photoresist** for submicron lithog.)
- IT Sulfonium compounds  
(triaryl, **photoresists** contg. novolak and photosensitizer and, electron transfer mechanism of)
- IT **Resists**  
(photo-, chem. amplified, electron transfer from photosensitizer to acid generator for i-line and g-line submicron lithog.)
- IT 72-43-5, 2,2-Bis(4-methoxyphenyl)-1,1,1-trichloroethane

6542-67-2 52434-90-9

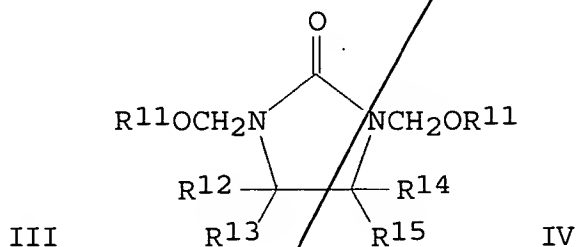
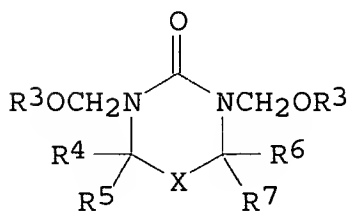
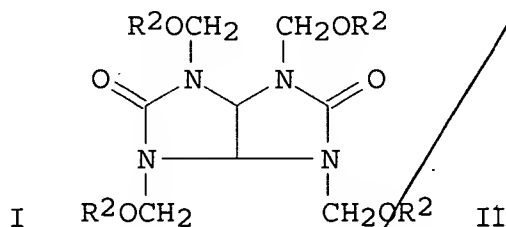
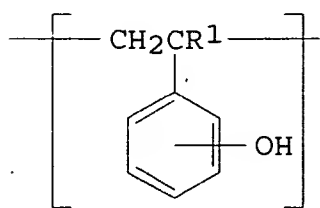
(neg. **resist** compn. contg. novolak and photosensitizer and, for i-line and g-line lithog.)

IT 92-30-8, 2-(Trifluoromethyl)phenothiazine 92-39-7,  
 2-Chlorophenothiazine 92-84-2, Phenothiazine 225-83-2,  
 12H-Benzo[a]phenothiazine 226-06-2, 7H-Benzo(c)phenothiazine  
 258-08-2, 12H-Benzo(b)phenothiazine 1207-72-3,  
 N-Methylphenothiazine 1771-18-2, 2-Methoxyphenothiazine  
 6631-94-3, 2-Acetylphenothiazine  
 (photosensitization of i-line and g-line **resists** by,  
 electron transfer to acid generator in)

L40 ANSWER 12 OF 18 HCA COPYRIGHT 2003 ACS on STN

113:106450 Heat-resistant **photoresist** composition for far  
 ultraviolet or excimer laser beam. Totoko, Masaaki; Yamamoto,  
 Takashi; Nagaoka, Keiko; Kyota, Toru (Tosoh Corp., Japan). Jpn.  
 Kokai Tokkyo Koho JP 02015270 A2 19900118 Heisei, 7 pp. (Japanese).  
 CODEN: JKXXAF. APPLICATION: JP 1988-165127 19880704.

GI



AB The title compn. contains a phenolic polymer I (R1 = C1-5 alkyl),  
 .gtoreq.1 **crosslinking** agents selected from II, III, and  
 IV (R2, R3 = H, C1-5 alkyl, R4-7 = H, OH, C1-5 alkyl, C1-5 alkoxy; X  
 = O, CH2, R8N, R9R10C; R8 = H, C1-5 alkyl; R9, R10 = H, OH, C1-5  
 alkyl; R11 = H, C1-5 alkyl, R12-15 = H, OH, C1-5 alkyl, C1-5  
 alkoxy), and a compd. generating acid under actinic ray irradiatn.  
 Thus, a mixt. of poly(p-hydroxystyrene), II (R1 = Bu), and  
 1,1-bis(p-chlorophenyl)-2,2,2-trichloroethane in Et cellosolve  
 acetate was spin-coated onto a hexamethylenedisilazane-coated Si  
 wafer, prebaked, far UV-irradiated, heated, developed with Me4NOH,  
 and post-baked to give a precise pattern.

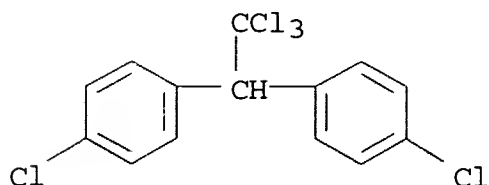
IT 50-29-3, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses

and miscellaneous

(acid-generating agent, for **photoresist**)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-038

ICA G03F007-20

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 76

ST **photoresist** hydroxystyrene polymer semiconductor device;  
far UV excimer laser **photoresist**; polyhydroxystyrene  
**photoresist** acetyleneurea acid generator;  
bischlorophenylchloroethane **photoresist** semiconductor device

IT Semiconductor devices  
(fabrication of, **photoresists** for)

IT **Resists**  
(photo-, hydroxystyrene polymer and alkyleneurea or alkyneurea and acid-generating agent using)

IT 50-29-3, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses and miscellaneous 313-39-3, Diphenyliodonium tetrafluoroborate 57835-99-1, Triphenylsulfonium hexafluorophosphate (acid-generating agent, for **photoresist**)

IT 1678-43-9  
(acid-generating agent, for **photoresist**, for semiconductor device)

IT 13747-15-4  
(**photoresist** from, for far UV or excimer laser, with heat resistance)

IT 2669-72-9  
(**photoresist** from, for far-UV or excimer laser, with heat resistance)

IT 24979-74-6, p-Hydroxystyrene-styrene copolymer  
(**photoresist** from, for use with UV or excimer laser, heat-resistant)

IT 15968-37-3 24979-70-2, Poly(p-hydroxystyrene)  
(**photoresist** from, using far UV or excimer laser, with heat resistance, for semiconductor device)

L40 ANSWER 13 OF 18 HCA COPYRIGHT 2003 ACS on STN

108:229630 Thermally stable microplastic structure fabrication for semiconductor device. Feely, Wayne Edmund (Rohm and Haas Co., USA).

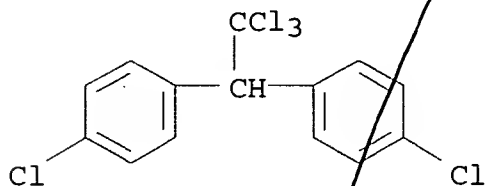
Eur. Pat. Appl. EP 232973 A2 19870819, 27 pp. DESIGNATED STATES:  
 R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE. (English). CODEN:  
 EPXXDW. APPLICATION: EP 1987-300220 19870112. PRIORITY: US  
 1986-818571 19860113.

AB A process for forming thermally stable microplastic structures is comprised of depositing a photosensitive coating compn. comprising 40-99.9% of a **crosslinkable** polymer and 0.1-60% of a photoacid generator, the percentages being based on the wt. of the **crosslinkable** polymer plus the photoacid generator, on a substrate, exposing a portion or portions of the coating to actinic radiation through a suitable **photomask**, heating the exposed coating to 70-120.degree. to **crosslink** the exposed coating, and removing the uncrosslinked coating using an aq. base soln. to produce a microplastic structure that is stable to temp. .gtoreq.200.degree.. Three dimensional, thermally stable, microplastic structures can thus be prepd., which have a variety of configurations suitable for a wide range of uses in elec., chem., mech., and optical devices such as smart sensors integral to Si chip devices.

IT 50-29-3, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses and miscellaneous (photoacid generator, photosensitive resin compn. contg., for prepg. three-dimensional thermally stable microplastic structures)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-08

ICS G03F007-10

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST UV photoacid generator microplastic structure; thermally stable microplastic structure **photoresist**; three dimensional image semiconductor device

IT **Resists**

(photo-, contg. UV photoacid generator, for prepg. three-dimensional thermally stable microplastic structures)

IT 50-29-3, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses and miscellaneous 52434-90-9, Tris(2,3-dibromopropyl)isocyanurate 53208-22-3, Diazonaphthoquinone

(photoacid generator, photosensitive resin compn. contg., for prepg. three-dimensional thermally stable microplastic structures)

L40 ANSWER 14 OF 18 HCA COPYRIGHT 2003 ACS on STN

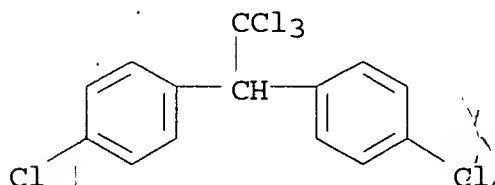
108:46859 Negative-working **photoresist** and negative images formation using some. (Rohm and Haas Co., USA). Jpn. Kokai Tokkyo Koho JP 62164045 A2 19870720 Showa, 19 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-4214 19870113. PRIORITY: US 1986-818430 19860113.

AB The neg. **photoresist** compn. consists of an acid-hardenable resin and a photosensitive halogen-contg. acid-forming org. substance in an amt. sufficient to yield a thermally stable image, the latter substance absorbing actinic light at 210-99 nm, being miscible with the acid-hardenable resin, developable in an aq. alk. soln., and capable of yielding a halo-acid on irradiating with far UV to effect **crosslinking** while heating. Neg. image formation is effected by coating a substrate with the above compn., baking at 90.degree., imagewise exposing with far UV, developing with an aq. alk. developer soln., and baking at elevated temp.

IT 50-29-3, properties 72-43-5  
(photochem. acid-generating compd., for **photoresists**)

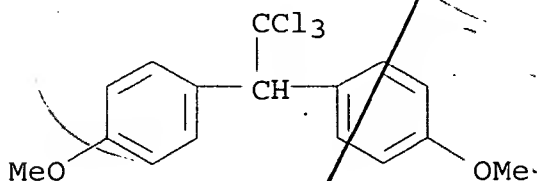
RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



RN 72-43-5 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- (9CI) (CA INDEX NAME)



IC ICM G03C001-71

ICS G03F007-10

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **photoresist** neg acid hardening

IT **Resists**

(photo-, neg.-type, thermally stable, contg. photochem. acid-generating compd.)

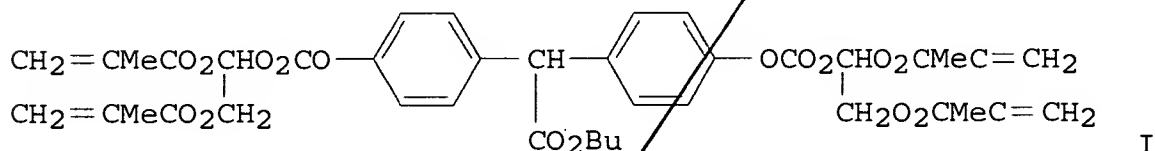
IT 24463-19-2 52434-90-9 57835-99-1 57840-38-7 81012-95-5

112367-96-1 112367-97-2 112367-98-3 112367-99-4 112385-12-3  
 (photochem. acid-generating compd., for **photoresists**)  
 IT 50-29-3, properties 68-36-0 72-43-5 72-54-8  
 72-55-9, uses and miscellaneous 72-56-0 78-43-3 115-96-8  
 319-85-7 354-38-1 552-89-6 594-65-0 621-08-9 728-90-5  
 1929-82-4 3064-70-8 3194-55-6 4101-68-2 6339-09-9  
 (photochem. acid-generating compd., for **photoresists**)  
 IT 9003-08-1, Cymel 303 9016-83-5  
 (**photoresist** compn. contg., thermally stable)

L40 ANSWER 15 OF 18 HCA COPYRIGHT 2003 ACS on STN

101:101227 Photopolymerizable copying materials. Doenges, Reinhard;  
 Horn, Klaus (Hoechst A.-G., Fed. Rep. Ger.). Eur. Pat. Appl. EP  
 97864 A1 19840111, 46 pp. DESIGNATED STATES: R: DE, FR, GB.  
 (German). CODEN: EPXXDW. APPLICATION: EP 1983-105776 19830613.  
 PRIORITY: DE 1982-3223105 19820621; DE 1982-3227913 19820727.

GI

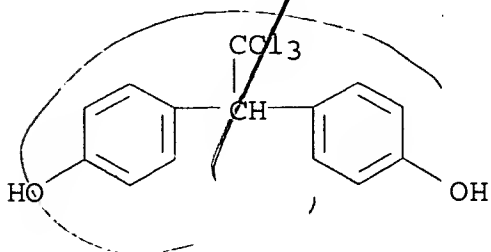


AB Photopolymerizable compns. which are insensitive to O are composed  
 of a polymer **binder**, a radiation-activatable polymn.  
 initiator, and a polymerizable compd. of the formula  
 $(\text{CH}_2=\text{CR}_1\text{CO}_2\text{CH}_2\text{CHRO}_2\text{CZ}_1)_2\text{Z}_1$  and  $(\text{CH}_2:\text{CR}_1\text{CO}_2\text{CH}_2\text{CO})_2$  (R = H or  
 CH<sub>3</sub>; R<sub>1</sub> = H or Me; Z = phenylene, biphenylene, alkylene,  
 cycloalkylene, oxyalkyleneoxy, and the like; Z<sub>1</sub> = O or (CH<sub>2</sub>)<sub>2</sub>CO).  
 These compns. are esp. useful for the prodn. of **photoresists**  
 and printing plates. Thus, an electrochem. grained and anodized Al  
 plate was coated at 3.7-4 g/m<sup>2</sup> (dry) with a compn. contg. maleic  
 anhydride-styrene copolymer 2, I 2, 9-phenylacridine 0.125, an azo  
 dye 0.06, butanone 26, and BuOAc 14 parts, dried, exposed in a  
 vacuum frame, and developed with an alk. developer to show 5 fully  
**crosslinked** steps.

IT 2971-36-0  
 (chlorocarbonylation of, by phosgene)

RN 2971-36-0 HCA

CN Phenol, 4,4'-(2,2,2-trichloroethylidene)bis- (9CI) (CA INDEX NAME)

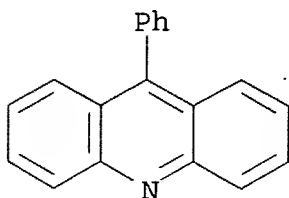


IT 602-56-2

(photopolymerizable compns. contg. acrylates or methacrylates and, oxygen-insensitive, for **photoresists** and printing plates)

RN 602-56-2 HCA

CN Acridine, 9-phenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



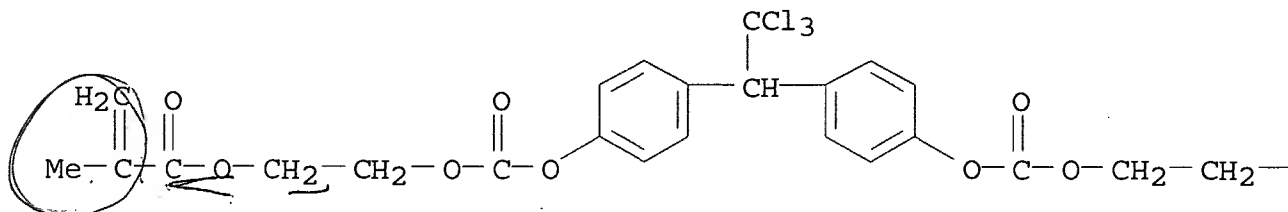
IT 91174-41-3

(photopolymerizable compns. contg., oxygen-insensitive, for **photoresist** and printing plates)

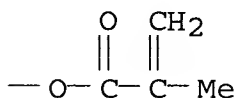
RN 91174-41-3 HCA

CN 2-Propenoic acid, 2-methyl-, (2,2,2-trichloroethylidene)bis(4,1-phenyleneoxycarbonyloxy-2,1-ethanediyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



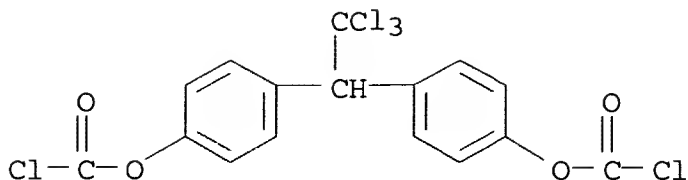
IT 17854-01-2P

(prepn. of)

RN 17854-01-2 HCA

CN Carbonochloridic acid, (2,2,2-trichloroethylidene)di-4,1-phenylene ester (9CI) (CA INDEX NAME)





- IC G03C001-68; C08F020-26; C08F020-28; C08F020-30
- CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST acrylate methacrylate photopolymer oxygen insensitive; photoimaging acrylate methacrylate; **photoresist** acrylate methacrylate; printing plate acrylate methacrylate photopolymer; lithog plate acrylate methacrylate
- IT Silica gel, uses and miscellaneous  
(photopolymerizable compns. contg. acrylates or methacrylates and, oxygen-insensitive, for **photoresists** and printing plates)
- IT **Resists**  
(photo-, oxygen-sensitive, contg. photopolymerizable acrylates or methacrylates)
- IT 2971-36-0 71077-33-3  
(chlorocarbonylation of, by phosgene)
- IT 602-56-2 23807-28-5 25086-15-1 41137-60-4 58206-31-8 58601-54-0  
(photopolymerizable compns. contg. acrylates or methacrylates and, oxygen-insensitive, for **photoresists** and printing plates)
- IT 30764-80-8 52645-24-6 91174-38-8 91174-39-9 91174-40-2  
91174-41-3 91174-42-4 91174-43-5 91174-44-6  
91174-45-7 91174-46-8 91174-47-9 91174-48-0 91174-49-1  
91174-50-4 91174-51-5 91174-52-6 91174-53-7 91174-54-8  
91174-55-9 91174-56-0 91174-57-1 91174-58-2 91174-59-3  
91174-60-6 91174-61-7 91174-62-8 91174-63-9 91174-64-0  
91174-65-1 91185-68-1 91185-69-2 91185-70-5 91185-71-6  
91185-72-7 91185-73-8 91513-10-9 91513-11-0  
(photopolymerizable compns. contg., oxygen-insensitive, for **photoresist** and printing plates)
- IT 17854-01-2P 91174-66-2P  
(prepn. of)
- L40 ANSWER 16 OF 18 HCA COPYRIGHT 2003 ACS on STN
- 101:15056 Photopolymerizable compositions for copying materials..  
Doenges, Reinhard; Horn, Klaus (Hoechst A.-G., Fed. Rep. Ger.).  
Ger. Offen. DE 3223104 A1 19831222, 34 pp. (German). CODEN:  
GWXXBX. APPLICATION: DE 1982-3223104 19820621.
- AB Photopolymerizable compns. for use as **photoresists** and in fabricating of printing plates are described. These compns., which are insensitive to O<sub>2</sub>, contain a polymer **binder**, a radiation-activatable polymn. initiator, and a polymerizable compd.

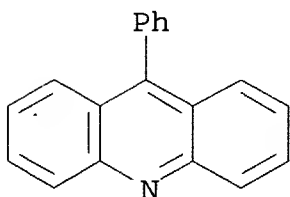
of the formula  $[\text{CH}_2:\text{CRCO}_2\text{CH}_2(\text{CH}_2)_m]_2\text{Z}$  ( $\text{R} = \text{H}, \text{Me}$ ;  $\text{Z} = \text{phenylene, naphthylene, biphenyldiyl, dinaphthylmethandiyl, or a phenylene group with an O, S, SO}_2, \text{carboxyl, carbonyloxyalkyl or the like group bridging the Ph groups; } m = 0, 1$ ). Thus, a compn. contg. a maleic anhydride-styrene copolymer (Scripset 540) 2, 9-phenylacridine 0.125, the azo dye from 2,4-dinitro-6-chlorobenzenediazonium salt and 2-methoxy-5-acetylamino-N-cyanoethyl-N-hydroxyethylaniline 0.06,  $(\text{CH}_2:\text{CMeCO}_2\text{CH}_2\text{CH}_2\text{O-p-C}_6\text{H}_4)_2\text{CHCO}_2\text{Bu}$  2, butanone 26, and BuOAc 14 parts was coated on an Al printing plate support at 3.7-4 g/m<sup>2</sup> (dry), exposed, and developed to show 5 completely **crosslinked** steps.

IT 602-56-2

(photopolymerizable compns. contg. alkoxyated phenol acrylates and, oxygen-insensitive, for **photoresists** and printing plate fabrication)

RN 602-56-2 HCA

CN Acridine, 9-phenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

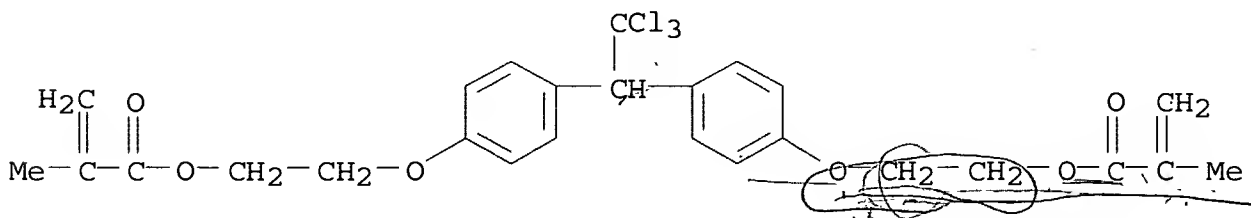


IT 90549-15-8

(photopolymerizable compns. contg., oxygen-insensitive, for **photoresists** and printing plate fabrication)

RN 90549-15-8 HCA

CN 2-Propenoic acid, 2-methyl-, (2,2,2-trichloroethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) ester (9CI) (CA INDEX NAME)



IC C08F002-46; C08F002-48; C08F002-50; C08F002-54; C08F020-30; C08F020-38; G03F007-10; G03C001-68

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **Resists**

(photo-, contg. alkoxyated phenol acrylates)

IT 100-42-5D, polymers with maleic acid esters 110-16-7D, esters, polymers with styrene 602-56-2 25086-15-1 41137-60-4 58206-31-8 58601-54-0 79295-99-1

(photopolymerizable compns. contg. alkoxyated phenol acrylates and, oxygen-insensitive, for **photoresists** and printing

plate fabrication)

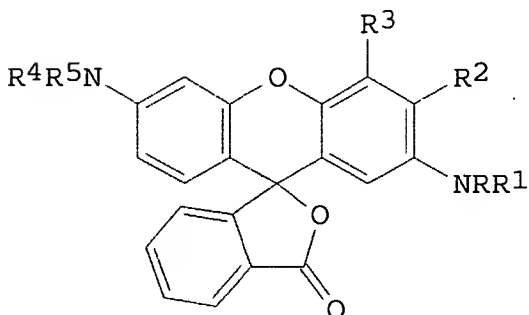
IT	7371-49-5	18838-58-9	24448-21-3	27499-52-1	35057-36-4
	51309-48-9	90548-99-5	90549-00-1	90549-01-2	90549-02-3
	90549-03-4	90549-04-5	90549-05-6	90549-06-7	90549-07-8
	90549-08-9	90549-09-0	90549-10-3	90549-11-4	90549-12-5
	90549-13-6	90549-14-7	<b>90549-15-8</b>	90549-16-9	
	90549-17-0	90549-18-1	90549-19-2	90549-20-5	90549-21-6
	90549-22-7	90549-23-8	90549-24-9	90577-68-7	90577-69-8
	90603-93-3				

(photopolymerizable compns. contg., oxygen-insensitive, for **photoresists** and printing plate fabrication)

L40 ANSWER 17 OF 18 HCA COPYRIGHT 2003 ACS on STN

93:141030 Phototropic photosensitive compositions containing fluoran colorformer. Reardon, Edward Joseph, Jr. (Dynachem Corp., USA). Eur. Pat. Appl. EP 5380 19791114, 78 pp. (English). CODEN: EPXXDW. APPLICATION: EP 1979-300796 19790509.

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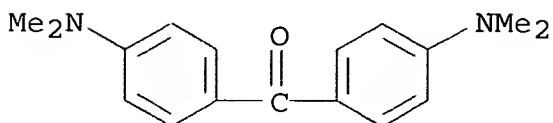
AB Phototropic compns. contg. a polymerizable, curable, or **crosslinkable** component, a photoinitiator, a fluoran color-former with the formula I (R, R1 = H, alkyl, alkenyl, alkoxyalkyl, alkoxyalkyl acyl, aryl, or together form a heterocycle; R2 = H, alkyl, alkoxy, halogen, amino, aryl, aryloxy; R3 = H, alkyl, alkoxy, amino, or the same as R, R1 above; R4, R5 are the same as R, R1 above), and latent activator that releases or promotes the release of a Lewis acid are described. These compns. are esp. useful in the prodn. of dry film **photoresists** for use in the electronics industry to manuf. printed circuits. Thus, a typical compn. contained Acryloid A-101 60.3, trimethylolpropane triacrylate 19.6, tetraethylene glycol diacrylate 9.8, **benzophenone** 3.4, 2,2'-methylene bis(4-ethyl-6-tert-butyl)phenol 0.18, Modaflow 0.15, tricresyl phosphate 4.31, 4,4'-bis(dimethylamino)**benzophenone** 0.45, CBr3CONH2 1.51, I (R = Me; R1 = CH2CO2Et; R2, R3 = H; R4, R5 = Et) 0.3, and MeCOEt 195 parts by wt.

IT **90-94-8 119-61-9**, properties **530-44-9**  
(photoimaging compns. contg. fluoran color-former and,

phototropic)

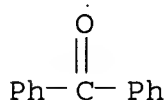
RN 90-94-8 HCA

CN Methanone, bis[4-(dimethylamino)phenyl]- (9CI) (CA INDEX NAME)



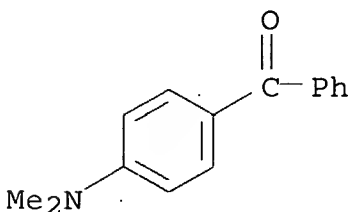
RN 119-61-9 HCA

CN Methanone, diphenyl- (9CI) (CA INDEX NAME)



RN 530-44-9 HCA

CN Methanone, [4-(dimethylamino)phenyl]phenyl- (9CI) (CA INDEX NAME)

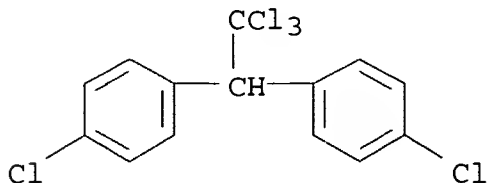


IT 50-29-3, properties

(photoimaging compns. contg. fluoran color-former and, phototropic)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)

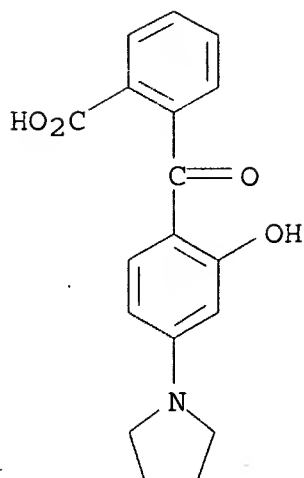


IT 49742-68-9

(reaction of, with benzoanisidine)

RN 49742-68-9 HCA

CN Benzoic acid, 2-[2-hydroxy-4-(1-pyrrolidinyl)benzoyl]- (9CI) (CA INDEX NAME)

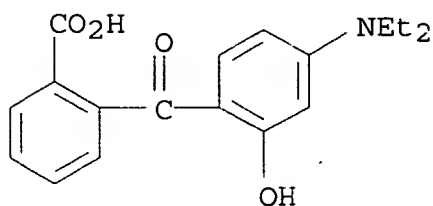


IT 5809-23-4

(reaction of, with nitrophenol)

RN 5809-23-4 HCA

CN Benzoic acid, 2-[4-(diethylamino)-2-hydroxybenzoyl]- (9CI) (CA INDEX NAME)



IC G03C001-68; G03C001-733; G03F007-02

CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)

IT **Resists**

(photo-, dry-film, contg. fluoran color formers)

IT Electric circuits

(printed, dry-film **photoresist** contg. fluoran color-former in fabrication of)

IT 86-39-5 87-58-1 87-82-1 88-24-4 **90-94-8** 95-14-7  
 96-13-9 98-86-2, properties 103-11-7 107-10-8, properties  
 108-01-0 108-32-7 115-20-8 119-53-9 **119-61-9**,  
 properties 121-44-8, properties 126-72-7 128-09-6 134-81-6  
 144-48-9 306-52-5 486-25-9 492-22-8 515-84-4  
**530-44-9** 558-13-4 594-47-8 594-65-0 598-70-9  
 918-00-3 927-62-8 1124-05-6 1330-78-5 1529-68-6 1675-54-3  
 2124-31-4 2223-82-7 2386-87-0 2436-77-3 2461-18-9  
 2935-44-6 3524-68-3 5398-24-3 6175-45-7 6320-96-3  
 7575-23-7 9011-14-7 9011-14-7 10287-53-3 12542-30-2  
 13048-33-4 13686-37-8 14779-78-3 15081-02-4 15625-89-5

17831-71-9 22499-12-3 23162-64-3 26672-67-3 29170-71-6  
36355-01-8 36511-35-0 37167-59-2 38800-47-4 40715-86-4  
52016-01-0 53814-24-7 54735-63-6 56927-95-8 66208-29-5  
66208-30-8 73003-80-2 73852-13-8 73852-14-9 73852-15-0  
73882-79-8

(photoimaging compns. contg. fluoran color-former and,  
phototropic)

IT 50-29-3, properties 56-23-5, properties 57-15-8  
67-72-1 75-03-6 75-47-8 76-00-6 76-08-4 77-47-4 79-94-7  
(photoimaging compns. contg. fluoran color-former and,  
phototropic)

IT 49742-68-9  
(reaction of, with benzoanisidine)

IT 100-02-7, reactions 2835-99-6 61638-01-5  
(reaction of, with **carboxydiethylaminohydroxybenzophenone**  
)

IT 1008-97-5 17377-95-6  
(reaction of, with **carboxyhydroxypyrrolidinylbenzophenone**  
)

IT 5809-23-4  
(reaction of, with nitrophenol)

L40 ANSWER 18 OF 18 HCA COPYRIGHT 2003 ACS on STN

88:161479 Stable photopolymerizable mass. Yamazaki, Toshio; Cook,  
Harriet J.; Lipson, Melvin A. (Dynachem Corp., USA). Ger. Offen. DE  
2718200 19771027, 55 pp. (German). CODEN: GWXXBX. APPLICATION: DE  
1977-2718200 19770423.

AB Stable photopolymerizable compns. contain an addn. polymerizable  
ethylenically unsatd. compd. with .gtoreq.1 terminal ethylenic group  
and having a boiling p. .gtoreq.100.degree. at atm. pressure, a  
free-radical-forming addn. polymn. initiator, a free base of a dye  
whose halide salt is more colored than the free base, and a  
halogen-contg. compd. giving halogen-contg. radicals on exposure to  
light. Thus, a photopolymerizable compn. giving a stable image  
contained Acryloid A-101 40.0, trimethylolpropane triacrylate 13.0,  
triethylene glycol diacrylate 6.5, benzophenone 2.25,  
4,4'-bis(dimethylamino)**benzophenone** 0.3,  
2,2'-methylenebis(4-ethyl-6-tert-butylphenol) 0.12, Rhodamine B base  
0.6, trichloroacetamide 1.8, 2-mercaptobenzoxazole 0.33, Modaflow  
0.10, tricresyl phosphate 2.88, and MeCOEt 130 parts by wt.

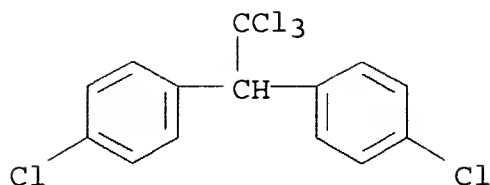
IT 50-29-3, uses and miscellaneous 90-94-8  
119-61-9, uses and miscellaneous

(photopolymerizable compns. contg., for photoimaging and  
**photoresists**)

RN 50-29-3 HCA

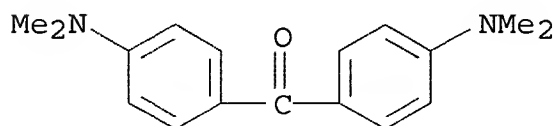
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA  
INDEX NAME)

= 4065315



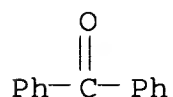
RN 90-94-8 HCA

CN Methanone, bis[4-(dimethylamino)phenyl]- (9CI) (CA INDEX NAME)

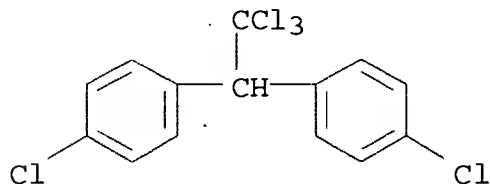


RN 119-61-9 HCA

CN Methanone, diphenyl- (9CI) (CA INDEX NAME)

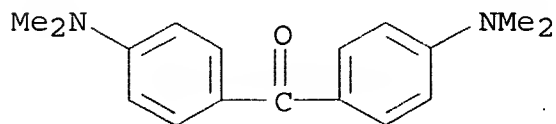
IT 50-29-3, uses and miscellaneous 90-94-8  
134-85-0(photopolymerizable compns. contg., for photoimaging compns. and  
**photoresists**)

RN. 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA  
INDEX NAME)

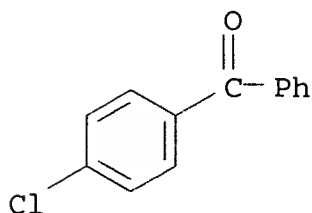
RN 90-94-8 HCA

CN Methanone, bis[4-(dimethylamino)phenyl]- (9CI) (CA INDEX NAME)



RN 134-85-0 HCA

CN Methanone, (4-chlorophenyl)phenyl- (9CI) (CA INDEX NAME)



IC C08L033-00  
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic Processes)  
 Section cross-reference(s): 76  
 ST photoimaging compn free radical; **photoresist** printed circuit fabrication  
 IT Paraffin waxes and Hydrocarbon waxes, uses and miscellaneous (chlorinated, photopolymerizable compns. contg., for photoimaging compns. and **photoresists**)  
 IT Acrylic polymers, uses and miscellaneous  
 Soybean oil  
 (photopolymerizable compns. contg., for photoimaging compns. and **photoresists**)  
 IT **Resists**  
 (photo-, free radical-initiated photopolymerizable compns. for)  
 IT 50-29-3, uses and miscellaneous 57-15-8 88-24-4  
 90-94-8 96-13-9 99-98-9 101-61-1 115-20-8 118-74-1  
 119-61-9, uses and miscellaneous 134-32-7 509-34-2  
 548-62-9 569-64-2 594-65-0 1332-85-0 2382-96-9 2390-63-8  
 8004-87-3 9011-14-7 15625-89-5 17831-71-9 66231-28-5  
 66231-29-6 66231-30-9 66231-31-0 66231-32-1 66231-33-2  
 (photopolymerizable compns. contg., for photoimaging and **photoresists**)  
 IT 50-29-3, uses and miscellaneous 56-23-5, uses and miscellaneous 67-72-1 75-03-6 75-47-8 76-03-9, uses and miscellaneous 80-62-6 87-82-1 90-94-8 95-14-7  
 96-13-9 115-96-8 126-72-7 128-09-6 134-85-0  
 135-49-9 467-63-0 509-34-2 558-13-4 594-65-0 634-93-5  
 818-61-1 1124-05-6 1325-85-5 1325-86-6 2223-82-7 2390-59-2  
 2412-14-8 3248-93-9 3524-68-3 4986-89-4 5330-18-7  
 5385-11-5 6066-04-2 6359-16-6 6359-45-1 6837-66-7  
 6837-75-8 9002-86-2 9003-01-4D, esters, reaction products with epoxidized soybean oil 9010-92-8 9011-14-7 9059-79-4  
 12542-30-2 13686-37-8 25215-62-7 29385-43-1 36355-01-8  
 36511-35-0 40715-86-4 51326-37-5 52016-01-0 52080-58-7  
 54735-63-6 66208-29-5 66208-30-8 66225-66-9 66231-35-4  
 (photopolymerizable compns. contg., for photoimaging compns. and **photoresists**)

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L41 ANSWER 2 OF 35 HCA COPYRIGHT 2003 ACS on STN

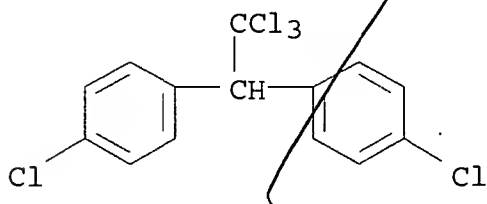
135:378749 Nitride surface passivation for acid catalyzed chemically amplified **resist** processing. Lyons, Christopher F. (Advanced Micro Devices, USA). U.S. US 6319843 B1 20011120, 6 pp. (English). CODEN: USXXAM. APPLICATION: US 1999-328084 19990608.

AB In one embodiment, the present invention relates to a method of minimizing or preventing contamination of an acid catalyzed **photoresist** when using the acid catalyzed **photoresist** over a nitride contg. film, involving contacting the nitride contg. film with an oxidizing plasma comprising from about 1 to about 90 by vol. of an oxygen contg. gas and from about 10 to about 99 by vol. of a forming gas prior to deposition of the acid catalyzed **photoresist** over the nitride contg. film. Since the surface of the nitride contg. film is passivated in accordance with the present invention, crisp, well defined patterned **photoresists** are obtainable.

IT 50-29-3, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, processes (photoacid generator, nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM H01L021-302

NCL 438724000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST nitride film surface passivation chem amplified **photoresist** contamination prevention; photolithog UV **photoresist** contamination prevention nitride surface passivation

IT **Photoresists**

(UV, chem. amplified; nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)

IT Photolithography

(UV; nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)

IT Passivation

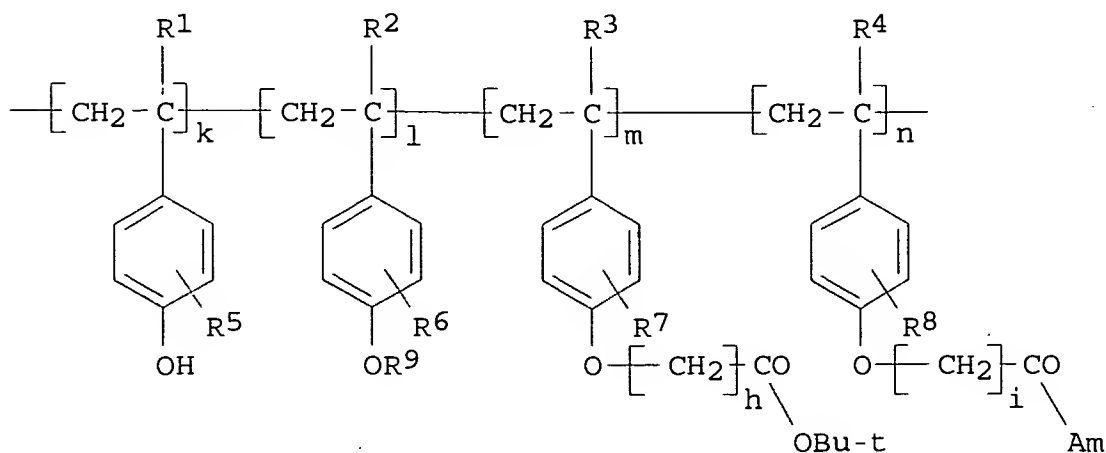
(nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)

- IT 24979-70-2D, Poly-p-hydroxystyrene, partially t-butoxycarbonyloxy substituted  
(UV acid-catalyzed **photoresist**; nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)
- IT 11105-01-4, Silicon oxynitride 12033-89-5, SILICON NITRIDE, processes  
(nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)
- IT 1333-74-0, Hydrogen, processes 7727-37-9, Nitrogen, processes 7782-44-7, Oxygen, processes  
(oxidizing plasma component; nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)
- IT 50-29-3, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, processes  
(photoacid generator; nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)

L41 ANSWER 3 OF 35 HCA COPYRIGHT 2003 ACS on STN

134:318680 Modified p-hydroxystyrene copolymers and chemically amplified **photoresist** compositions containing them. Jong, Hyun Byon; Kim, Seong-ju; Park, Joo-hyeon; Lee, Jong Bum (Korea Kumho Petrochemical Co., Ltd., S. Korea). Jpn. Kokai Tokkyo Koho JP 2001114822 A2 20010424, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-287468 19991008.

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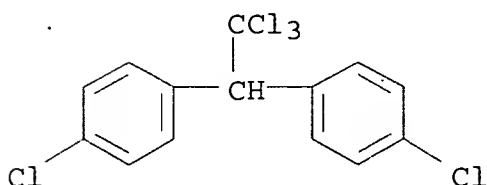
AB Chem. amplified **photoresist** compns. contain copolymers I

[R1-R4 = H, lower alkyl; R5-R8 = H, C1-8 alkyl, alkoxy, alkoxy carbonyl, halo; h, i = 0-8;  $0.3 < k/(k + l + m + n) < 0.9$ ;  $0 \leq l \leq 0.6$ ;  $0 \leq m/(k + l + m + n) < 0.6$ ;  $0.01 < n/(k + l + m + n) < 0.3$ ;  $k + l + m + n = 1$ ;  $l = m$  or  $0$ ; R9 = CR10R11OR12; R10, R11 = H, C1-6 linear or branched alkyl; R12 = C1-10 linear, branched, or cyclic alkyl; Am = NR13R14, (O- or S- contg.) cyclic amine; R13, R14 = H, C1-8 alkyl, aryl, Ph] having Mw (calcd. as polystyrene) 1000-1,000,000, acid generators, and additives dissolved in solvents. The compns. are sensitive to UV, far-UV, excimer laser, x-rays, and electron beams and give high-sensitivity high-resoln. fine patterns.

IT 50-29-3, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, uses (acid generator; prepn. of hydroxystyrene copolymers for chem. amplified photoresists)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM C08F008-14

ICS C08L025-18; G03F007-004; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 37

ST hydroxystyrene polymer chem amplified photoresist

IT Photoresists

(chem. amplified; prepn. of hydroxystyrene copolymers for chem. amplified photoresists)

IT Integrated circuits

(large-scale; prepn. of hydroxystyrene copolymers for chem. amplified photoresists for)

IT 50-29-3, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, uses

6293-66-9 24481-45-6 24504-22-1 39153-56-5,

Bis(2,4-dimethylphenylsulfonyl)diazomethane 57840-38-7,

Triphenylsulfonium hexafluoroantimonate 116808-67-4 138529-81-4,

Bis(cyclohexylsulfonyl)diazomethane 180801-55-2 255056-53-2

331834-74-3

(acid generator; prepn. of hydroxystyrene copolymers for chem. amplified photoresists)

IT 109-92-2DP, Ethyl vinyl ether, reaction products with

poly(p-hydroxystyrene) 5292-43-3DP, tert-Butyl bromoacetate,

reaction products with poly(p-hydroxystyrene) 24979-70-2DP,

p-Hydroxystyrene homopolymer, reaction products with

(bromoacetyl)morpholine and tert-Bu bromoacetate and/or Et vinyl

ether 40299-87-4DP, 4-(Bromoacetyl)morpholine, reaction products

with poly(p-hydroxystyrene)  
 (prepn. of hydroxystyrene copolymers for chem. amplified  
**photoresists**)

L41 ANSWER 4 OF 35 HCA COPYRIGHT 2003 ACS on STN

133:342516 Photopolymerization composition and printing plate containing it. Takasaki, Ryuichiro; Urano, Toshiyoshi (Mitsubishi Chemical Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2000305262 A2 20001102, 26 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-360592 19991220. PRIORITY: JP 1999-41667 19990219.

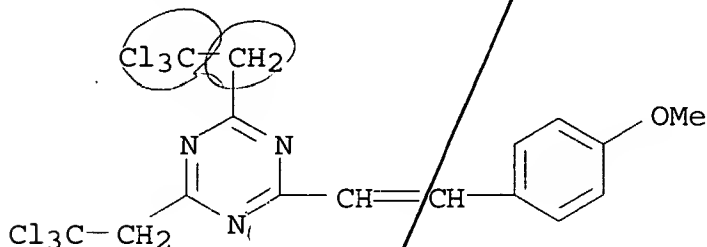
AB The compn. consists of an ethylenically unsatd. amine with an acryloyloxyalkyl and/or a phosphate with (meth)acryloyloxyalkyl, a phthalocyanine IR absorbing dye, and a polymn. initiator. The printing plate comprises an anodized Al support having thereon a layer contg. the obtained compn. The plate provides images with high resolving power, suitable for IR laser scanning exposure.

IT 303957-45-1

(polymn. initiator; ethylenically unsatd. amine or phosphate in photopolymn. compn. for IR laser scanning-type printing plate)

RN 303957-45-1 HCA

CN 1,3,5-Triazine, 2-[2-(4-methoxyphenyl)ethenyl]-4,6-bis(2,2,2-trichloroethyl)- (9CI) (CA INDEX NAME)



IC ICM G03F007-004

ICS C08F020-36; G03F007-00; G03F007-027; G03F007-029

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photopolymn compn acryloyloxyalkyl amine phosphate printing plate; phthalocyanine IR absorber **photoresist** presensitized lithog plate

IT **Photoresists**

(ethylenically unsatd. amine or phosphate in photopolymn. compn. for IR laser scanning-type printing plate)

IT 120307-06-4 303957-45-1

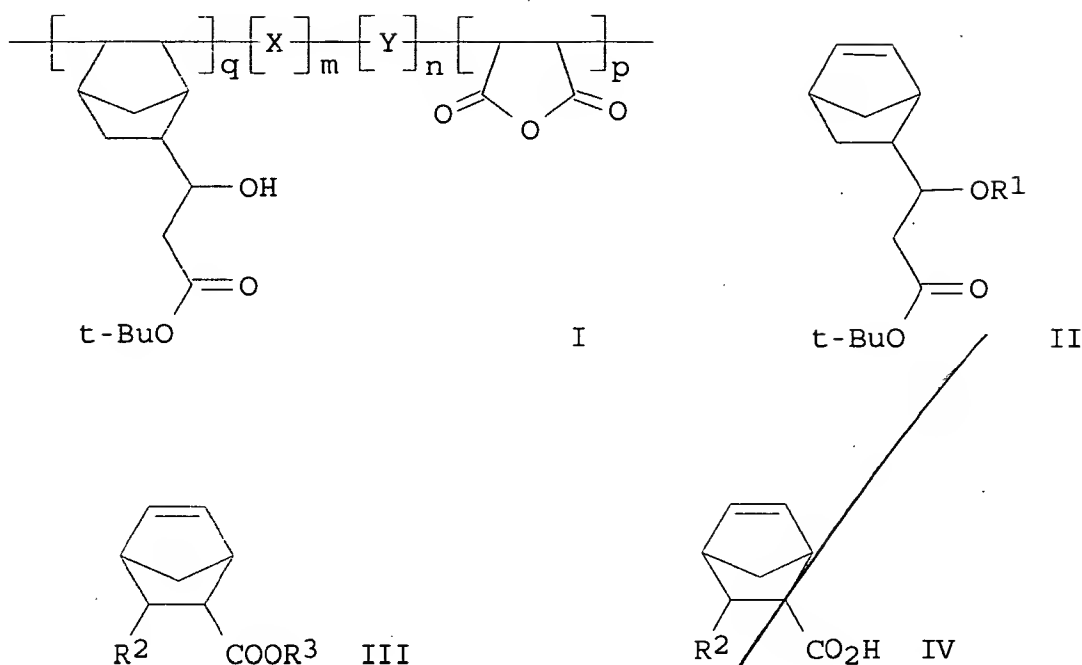
(polymn. initiator; ethylenically unsatd. amine or phosphate in photopolymn. compn. for IR laser scanning-type printing plate)

L41 ANSWER 5 OF 35 HCA COPYRIGHT 2003 ACS on STN

132:271670 Radiation-sensitive **resist** composition and polymer for it. So, Don-Chul; Paek, soon-I.; Park, Cho-Hyun; Kim, Son-Ju (Korea Kumho Petrochemical Co., Ltd., S. Korea). Jpn. Kokai Tokkyo Koho JP 2000109525 A2 20000418, 18 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-202429 19990716. PRIORITY: KR 1998-41972

19981008.

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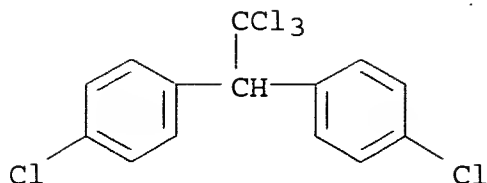


AB A copolymer I [X = norbornene deriv. II or III with acid releasable group at side chain; Y = norbornene deriv. IV with carboxylic acid group at side chain; R<sub>1</sub> = C<sub>1</sub>-10 alkyl, (poly)cyclic alkyl, alkylcarbonyl, such as tert-butyloxycarbonyl, acetyl, cyclohexanecarbonyl, adamantanecarbonyl, bicyclo[2,2,1]heptanemethylcarbonyl, etc.; R<sub>2</sub> = H, C<sub>1</sub>-10 (cyclic) alkyloxycarbonyl, alkoxyalkylcarbonyl; R<sub>3</sub> = C<sub>1</sub>-10 alkyl, (poly)cyclic alkyl, such as Me, Et, tert-Bu, iso-Pr, adamantyl, etc.; q + m + n + p = 1; o = 0.4-0.6; q, m, n, .ltoreq.0.5] having mol. wt. (as styrene) 3000-50,000 and polydispersity (M<sub>w</sub>/M<sub>n</sub>) 1.0-2.0 is claimed. The radiation-sensitive **resist** compn. comprising the polymer I, an acid generator, and a solvent is also claimed. The compn. shows high sensitivity to ArF excimer laser, good adhesion with a substrate, dry etching resistance, and high resolu.

IT 50-29-3, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, uses (radiation-sensitive **resist** compn. contg. norbornene deriv. copolymer and acid generator)

RN 50-29-3 HCA

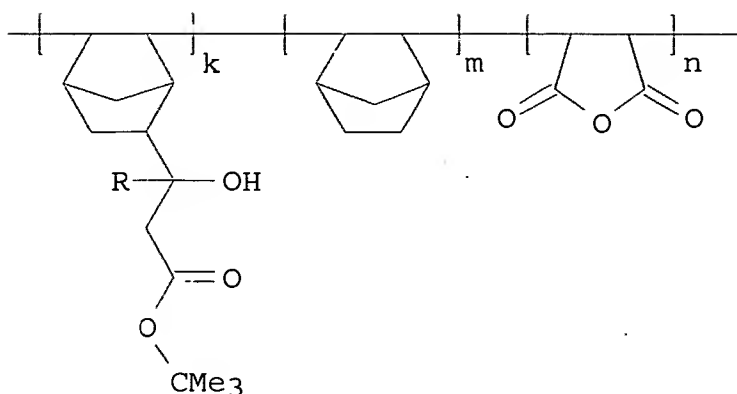
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM C08F222-06  
ICS C08F232-08; C08G063-54; C08L035-02; G03F007-039  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38  
ST radiation **resist** norbornene copolymer polydispersity; acid generator radiation **resist**  
IT **Resists**  
(radiation-sensitive; radiation-sensitive **resist** compn. contg. norbornene deriv. copolymer and acid generator)  
IT 263334-33-4P 263334-34-5P 263334-35-6P 263334-37-8P  
263334-39-0P 263334-41-4P 263334-42-5P 263334-43-6P  
263334-45-8P 263334-46-9P 263334-47-0P  
(radiation-sensitive **resist** compn. contg. norbornene deriv. copolymer and acid generator)  
IT 50-29-3, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, uses 6293-66-9 24504-22-1 57840-38-7, Triphenylsulfonium hexafluoroantimonate 66003-76-7, Diphenyliodonium triflate 66003-78-9, Triphenylsulfonium triflate  
(radiation-sensitive **resist** compn. contg. norbornene deriv. copolymer and acid generator)

L41 ANSWER 7 OF 35 HCA COPYRIGHT 2003 ACS on STN  
130:73899 Bicyclo structure-containing copolymer for positively-working **photoresist** and chemically amplified positively-working **photoresist** composition containing the polymer. Park, Jo-Heon; Kim, Gi-Hong; Kim, Ki-Dae; Park, Soon-Yi; Kim, Seon-Ju (Kumho Petrochemicals Co., Ltd., S. Korea). Jpn. Kokai Tokkyo Koho JP 10316720 A2 19981202 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-96482 19980408. PRIORITY: KR 1997-13338 19970408.

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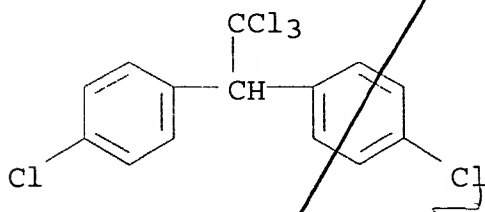
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AB The copolymer with polystyrene-converted mol. wt. 1000-1,000,000 is represented as a structural repeating unit I [R = H, alkyl;  $k/(m + n) = 0.1-0.5$ ;  $m/(k + n) = 0-0.5$ ;  $n/(k + m) = 1-0.9$ ]. The chem. amplified pos.-working **photoresist** compn. contains the polymer and an agent releasing acid under radiation irradiation. The **photoresist** compn. gives subquatermicron patterns with improved etching resistance.

IT 50-29-3, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, uses (chem. amplified pos. working **photoresist** compn. contg. bicyclo structure-contg. polymer and acid-releasing agent for etching-resistant fine pattern)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM C08F232-04

ICS G03F007-039

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35

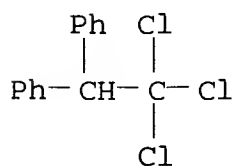
ST pos working **photoresist** subquatermicron pattern; chem amplified pos working **photoresist** copolymer; bicyclo structure contg polymer **photoresist**; acid releasing agent pos working **photoresist**; etching resistant pattern pos working **photoresist**

IT Positive **photoresists**

(chem. amplified; chem. amplified pos. working

**photoresist** compn. contg. bicyclo structure-contg. polymer and acid-releasing agent for etching-resistant fine pattern)

- IT 217798-35-1P, tert-Butyl 3-bicyclo[2.2.1]hept-5-en-2-yl-3-hydroxypropionate-maleic anhydride-norbornene copolymer (chem. amplified pos. working **photoresist** compn. contg. bicyclo structure-contg. polymer and acid-releasing agent for etching-resistant fine pattern)
- IT 50-29-3, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, uses 6293-66-9 24481-46-7 24504-22-1 39153-56-5, Bis(2,4-dimethylphenylsulfonyl)diazomethane 57840-38-7, Triphenylsulfonium hexafluoroantimonate 66003-76-7, Diphenyliodonium triflate 66003-78-9, Triphenylsulfonium triflate 81416-37-7 116808-67-4 138529-81-4, Bis(cyclohexylsulfonyl)diazomethane 145612-66-4 195245-87-5 (chem. amplified pos. working **photoresist** compn. contg. bicyclo structure-contg. polymer and acid-releasing agent for etching-resistant fine pattern)
- L41 ANSWER 8 OF 35 HCA COPYRIGHT 2003 ACS on STN
- 129:102852 Multilayer printed circuit boards and manufacturing thereof: Ono, Yoshitaka; Noda, Kota; Segawa, Hiroshi; Asai, Motoo (Ibiden Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10154873 A2 19980609 Heisei, 13 pp. (Japanese). CODEN: JXXXXAF. APPLICATION: JP 1997-18968 19970131. PRIORITY: JP 1996-257056 19960927.
- AB The title process comprises formation of a photosensitive resin insulating layer on an interlayer insulating resin layer (e.g. an adhesion layer for electroless plating), exposure and curing of the photosensitive resin layer to a desired pattern of a plating resist layer, electroless plating of a conductor circuit pattern on portions where no plating resist layer is formed, formation of gaps between opposing walls of the conductor pattern and the plating resist layer, and formation of a coarse layer for an anchor effect on the surface of the conductor pattern. No formation of cracks occurs toward the interlayer insulating layer at the boundaries between the circuit and the plating resist.
- IT 2971-22-4, DPE (for prepn. of plating resist permanent insulating layers in multilayer printed circuit boards)
- RN 2971-22-4 HCA
- CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis- (9CI) (CA INDEX NAME)



- IC ICM H05K003-46  
ICS H05K003-46



- CC 76-2 (Electric Phenomena)  
Section cross-reference(s): 38
- ST multilayer printed circuit board electroless plating; plating **resist** permanent insulating layer; interlayer resin insulating layer
- IT Polysulfones, properties  
(cresol-novolak, acrylate-modified; for prepn. of interlayer and permanent plating **resist** insulating layers in multilayer printed circuit boards)
- IT Coating process  
(electroless; formation of circuit patterns with permanent plating **resist** insulating layers in multilayer printed circuit boards)
- IT Polyethers, properties  
(for prepn. of interlayer and permanent plating **resist** insulating layers in multilayer printed circuit boards)
- IT Printed circuit boards  
(multilayer; formation of circuit patterns with permanent plating **resist** insulating layers in multilayer printed circuit boards)
- IT Epoxy resins, properties  
(phenolic, novolak, acrylate-modified; for prepn. of interlayer and permanent plating **resist** insulating layers in multilayer printed circuit boards)
- IT 12797-07-8 116226-27-8  
(film; for electroless-plated circuit patterns with permanent plating **resist** layers in multilayer printed circuit boards)
- IT 7440-50-8, Copper, processes  
(for electroless-plated circuit patterns with permanent plating **resist** layers in multilayer printed circuit boards)
- IT 106556-00-7, Aronix M 325  
(for prepn. of plating **resist** permanent insulating layers in multilayer printed circuit boards)
- IT 140-88-5D, polymers with Bu acrylate, 2-ethylhexyl acrylate, and hydroxy acrylate 141-32-2D, polymers with Et acrylate, 2-ethylhexyl acrylate, and hydroxy acrylate 818-61-1D, polymers with Bu acrylate, Et acrylate, and hydroxy acrylate 2971-22-4, DPE 25068-38-6, Epikote 1001 87320-05-6  
(for prepn. of plating **resist** permanent insulating layers in multilayer printed circuit boards)
- L41 ANSWER 9 OF 35 HCA COPYRIGHT 2003 ACS on STN  
124:131551 Fine pattern forming method. Hashimoto, Kazuhiko; Endo, Masayuki (Matsushita Electric Industrial Co., Ltd., Japan). U.S. US 5476753 A 19951219, 11 pp. Cont.-in-part of U.S. Ser. No. 916, 748, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1994-238793 19940506. PRIORITY: JP 1991-180836 19910722; US 1992-916748 19920722.
- AB A high polymer org. film is applied as a bottom layer to a semiconductor silicon substrate. A material including an acid generator which generates an acid on-irradn. with an electron beam

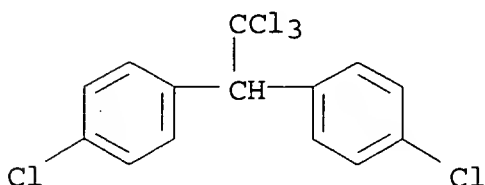
and a polysilane resin insol. in an alk. soln. is applied to the bottom layer as an electron beam **resist** including a Si-Si bond or Si-O bond in a principle chain and a substituted hydroxy group expressed as -OR in a side chain (R = hydrocarbon substitution group). A pattern is formed with an electron beam in the photosensitive layer, and it is developed with an alk. soln. By using the **resist** pattern as a mask, the bottom layer is etched. Thus, a fine **resist** pattern of correct high aspect ratio can be formed easily.

IT 50-29-3, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, processes

(acid generator for electron beam **resist** compn.)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03C005-00

NCL 430296000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electron beam **resist** fine patterning

IT Silsesquioxanes

(electron beam **resist** compn. from)

IT **Resists**

(electron-beam, acid generator and polysilane resin using)

IT Polysilanes

(ladder, electron beam **resist** compn. from)

IT Ladder polymers

(polysilanes, electron beam **resist** compn. from)

IT 50-29-3, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, processes

(acid generator for electron beam **resist** compn.)

IT 151172-77-9

(electron beam **resist** compn. from)

IT 18393-55-0, Triphenylsulfonium ion

(salt; acid generator for electron beam **resist** compn.)

L41 ANSWER 10 OF 35 HCA COPYRIGHT 2003 ACS on STN

123:44385 Fine pattern formation **resist** and its formation.

Katsuyama, Akiko; Hashimoto, Kazuhiko (Matsushita Electric Ind Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06342212 A2 19941213 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-65880 19940404. PRIORITY: JP 1993-80503 19930407.

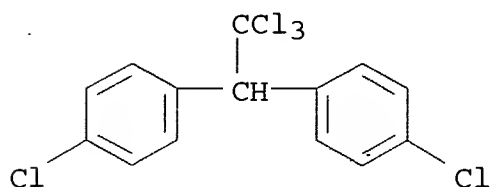
AB The **resist** contains (A) a polymer contg. a cellulose

backbone in a main chain which decomp. by an acid and (B) an acid generator. The method involves (1) forming a **resist** film by applying the **resist**, (2) pattern-exposing by radiation to generate the acid and decomp. the backbone, and (3) developing the film to form a pos. **resist** pattern.

IT 50-29-3, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, uses (acid generator; **photoresists** contg. cellulose derivs. and acid generators for pattern formation by radiation)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-039

ICS G03F007-004; G03F007-033; H01L021-027; H01L021-312

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 76

ST cellulose photo **resist** acid generator; pattern formation  
**resist** cellulose decompn; radiation **resist** photo  
cellulose decompn

IT Laser radiation

(**photoresists** contg. cellulose derivs. and acid  
generators for pattern formation by radiation)

IT **Resists**

(photo-, **photoresists** contg. cellulose derivs. and acid  
generators for pattern formation by radiation)

IT 50-29-3, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, uses (acid generator; **photoresists** contg. cellulose derivs. and acid generators for pattern formation by radiation)

IT 126615-05-2 164324-46-3 164324-47-4

(**photoresists** contg. cellulose derivs. and acid  
generators for pattern formation by radiation)

L41 ANSWER 12 OF 35 HCA COPYRIGHT 2003 ACS on STN

121:145374 Acid-catalyzed electron-beam **resist** and its patterning. Katsuyama, Akiko; Hashimoto, Kazuhiko; Endo, Masataka (Matsushita Electric Ind Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 05303203 A2 19931116 Heisei, 6 pp. (Japanese). , CODEN: JKXXAF. APPLICATION: JP 1992-109666 19920428.

AB The title **resist** comprises an alkali aq. soln.-insol. polymer comprising poly(p-hydroxystyrene) or its deriv. in which the H in the OH group is displaced by a group contg. N-carboxyamine and an acid-generating agent which is capable of generating acid by

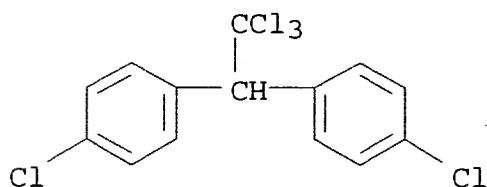
electron-beam irradiation. The title patterning comprises the steps of coating on a substrate a solution of the above **resist**, patternwise exposure of the coated **resist** with electron beam, heat treatment of the exposed **resist** to promote the decomposition reaction of the side chains of the above polymer by the generated acid and enable the dissolution of the polymer in the exposed area by an alkali, and developing with an alkali aqueous solution to give a positive pattern. The **resist** shows high sensitivity and the invention provides fine patterns with high throughput.

IT 50-29-3, 1, 1-Bis(p-chlorophenyl)-2, 2, 2-trichloroethane, uses

(acid-generating agent, electron-beam **resist** contg.)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-039

ICS G03F007-004; H01L021-027; H01L021-312

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electron beam **resist** acid catalysis; chem amplification

electron beam **resist**

IT **Resists**

(electron-beam, acid-catalyzed, positive-working, patterning of)

IT 157219-83-5 157219-85-7

(acid-catalyzed electron-beam **resist** contg.)

IT 50-29-3, 1, 1-Bis(p-chlorophenyl)-2, 2, 2-trichloroethane, uses

(acid-generating agent, electron-beam **resist** contg.)

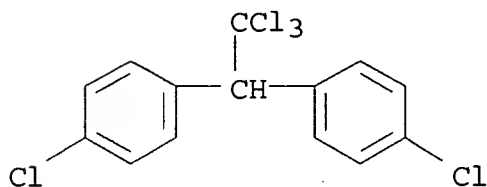
L41 ANSWER 13 OF 35 HCA COPYRIGHT 2003 ACS on STN

121:46627 Acid-catalyzed electron-beam **resist** and its patterning. Katsuyama, Akiko; Hashimoto, Kazuhiko; Endo, Masataka (Matsushita Electric Ind Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 05303204 A2 19931116 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-109668 19920428.

AB The title **resist** comprises an alkali-soluble polymer, an alkali aqueous solution-insoluble silylbenzene-containing compound, and an acid-generating agent which is capable of generating acid by electron-beam irradiation. The title patterning comprises the steps of coating on a substrate with the above **resist** solution, patternwise exposure of the coated **resist** with electron beam, heat treatment of the exposed **resist** to promote the decomposition reaction of the silylbenzene derivative by the generated acid

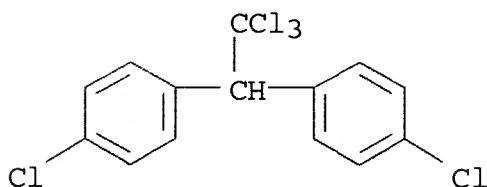
and enable the dissoln. of the silylbenzene deriv. in the exposed area by alkali soln., and developing with an alkali aq. soln. to give a pos. pattern. The **resist** shows high sensitivity and the invention provides fine patterns with high throughput.

- IT 50-29-3, 1, 1-Bis(p-chlorophenyl)-2, 2, 2-trichloroethane, uses  
(acid-generating agent, electron-beam **resist** contg.)
- RN 50-29-3 HCA
- CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



- IC ICM G03F007-039  
ICS C08K005-02; C08K005-42; C08K005-54; C08L061-06; G03F007-004; G03F007-075; H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST electron beam **resist** acid catalysis; chem amplification  
electron beam **resist**
- IT **Resists**  
(electron-beam, acid-catalyzed, pos.-working, patterning of)
- IT Phenolic resins, uses  
(novolak, acid-catalyzed electron-beam **resist** contg.)
- IT 50-29-3, 1, 1-Bis(p-chlorophenyl)-2, 2, 2-trichloroethane, uses  
(acid-generating agent, electron-beam **resist** contg.)
- IT 768-32-1, Trimethylsilylbenzene  
(dissoln. inhibitor, acid-catalyzed electron-beam **resist** contg.)
- L41 ANSWER 14 OF 35 HCA COPYRIGHT 2003 ACS on STN
- 119:239812 Precision patterning materials and patterning thereof. Hashimoto, Kazuhiko; Endo, Masataka (Matsushita Electric Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 05029205 A2 19930205 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-180836 19910722.
- AB The title electron-beaming pos.-type **resist** material, useful for prepn. of semiconductor devices and elec. circuits, comprises (1) a polysilane which has Si-Si bonds on its main chain and substituted hydroxyl groups on its branches and which is insol. in an aq. base and (2) an acid donor agent. The material gives a high-precision, high-resoln., and dry-etching resistant **resist**.
- IT 50-29-3, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, uses  
(acid generator, electron-beaming **resist** contg.)

RN 50-29-3 HCA  
 CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA  
 INDEX NAME)



IC ICM H01L021-027  
 CC 76-14 (Electric Phenomena)  
 Section cross-reference(s): 38  
 ST patterning pos **resist** polysilane acid  
 IT Onium compounds  
 (electron-beaming **resist** contg.)  
 IT Siloxanes and Silicones, uses  
 (ladder-type, electron-beaming **resist** contg.)  
 IT Halogen acids  
 (org., agent generating of, electron-beaming **resist**  
 contg.)  
 IT **Resists**  
 (electron-beam, pos.-working, polysilane-acid mixt. for, for  
 precision patterning)  
 IT Siloxanes and Silicones, uses  
 (polysilane-, electron-beaming **resist** contg.)  
 IT Polysilanes  
 (siloxane-, electron-beaming **resist** contg.)  
 IT 50-29-3, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, uses  
 18393-55-0D, salts  
 (acid generator, electron-beaming **resist** contg.)  
 IT 151172-77-9  
 (electron-beaming **resist** contg.)

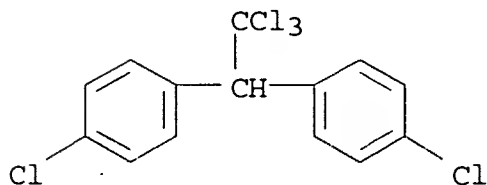
L41 ANSWER 15 OF 35 HCA COPYRIGHT 2003 ACS on STN  
 116:245278 Material and method for forming fine pattern. Hashimoto,  
 Kazuhiko; Nomura, Noboru (Matsushita Electric Industrial Co., Ltd.,  
 Japan). Jpn. Kokai Tokkyo Koho JP 03139650 A2 19910613 Heisei, 9  
 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-278840  
 19891025.

AB The title material comprises (1) an acid-decomp. resin or an  
 acid-reactive monomer, (2) an O-forming agent which generates O upon  
 irradiation with an electron beam, and (3) a Si resin having Si in its  
 main or side chain. A method for forming a fine pattern involves  
 coating the above material on a semiconductor substrate having an  
 organic polymer film, patternwise exposure and developing with a basic  
 solution to form a **resist** pattern, and etching the polymer  
 film using the **resist** pattern. Specifically, the Si resin  
 may comprise a polysilane.

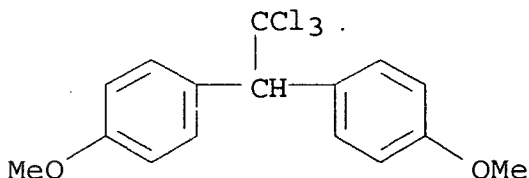
IT 50-29-3, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses

**72-43-5, 1,1-Bis(p-methoxyphenyl)-2,2,2-trichloroethane**  
**(photoresists contg.)**

RN 50-29-3 HCA  
 CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA  
 INDEX NAME)



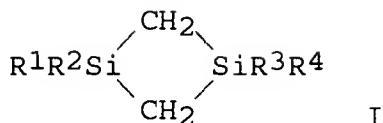
RN 72-43-5 HCA  
 CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- (9CI) (CA  
 INDEX NAME)



IC ICM G03F007-039  
 ICS G03F007-075; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 76  
 ST etching **photoresist** semiconductor device  
 IT Siloxanes and Silicones, uses  
 (hydroxyphenyl, **photoresists** contg.)  
 IT Semiconductor devices  
 (**photoresist** compns. for manuf. of)  
 IT Polysilanes  
 (**photoresists** contg.)  
 IT **Resists**  
 (photo-, electron-beam)  
 IT 50-29-3, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses  
 72-43-5, 1,1-Bis(p-methoxyphenyl)-2,2,2-trichloroethane  
 1075-49-6 9003-08-1 25087-26-7D, carbonic acid esters  
 (**photoresists** contg.)

L41 ANSWER 16 OF 35 HCA COPYRIGHT 2003 ACS on STN  
 116:48912 Process for forming a fine pattern. Hashimoto, Kazuhiko;  
 Kawakita, Kenji; Nomura, Noboru (Matsushita Electric Industrial Co.,  
 Ltd., Japan). Eur. Pat. Appl. EP 392236 A1 19901017; 13 pp.  
 DESIGNATED STATES: R: DE, FR, GB. (English). CODEN: EPXXDW.  
 APPLICATION: EP 1990-105610 19900324. PRIORITY: JP 1989-75317  
 19890327.

GI

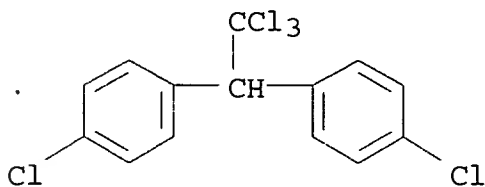


AB A process for forming a fine pattern for producing a semiconductor device or an integrated circuit comprises the steps of forming an org. polymer film on a semiconductor substrate, baking, applying a **resist** film consisting of a cyclocarbosilane (I; R<sup>1</sup>-R<sup>4</sup> = H, alkyl), a polymer resin, and a compd. generating an acid upon irradiation, baking, imagewise exposing to an electron beam, developing in an alk. soln. to form a **resist** pattern, and etching the org. polymer film while using the **resist** pattern as mask.

IT 50-29-3, uses  
 (electron-beam **resists** contg. cyclocarbosilane derivs.  
 and, for semiconductor device fabrication)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-075

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 76

ST cyclocarbosilane electron beam **resist**

IT Semiconductor devices  
 (electron-beam **resists** contg. cyclocarbosilane derivs.  
 for prepn. of)

IT **Resists**  
 (electron-beam, cyclocarbosilane derivs. for)

IT Electric circuits  
 (integrated, electron-beam **resists** contg.  
 cyclocarbosilane derivs. for prepn. of)

IT 50-29-3, uses  
 (electron-beam **resists** contg. cyclocarbosilane derivs.  
 and, for semiconductor device fabrication)

IT 1628-01-9 105064-43-5, Poly(methylsilylene) 138456-13-0  
 (electron-beam **resists** contg., for semiconductor device  
 fabrication)



L41 ANSWER 17 OF 35 HCA COPYRIGHT 2003 ACS on STN

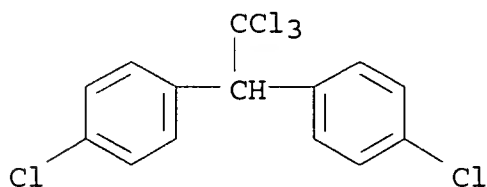
114:218111 **Photoresist** compositions. Todoko, Masaaki; Yamamoto, Takashi; Kyota, Toru (Tosoh Corp., Japan). Jpn. Kokai Tokkyo Koho JP 02253260 A2 19901012 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-73995 19890328.

AB The title compns. contain diazo group-contg. compds. and acid-generating compds. activated by active radiation. High sensitivity to UV, far UV, and excimer laser radiation is obtained. Thus, a com. **resist** contg. cresol novolak and naphthoquinonediazide compd. was mixed with 1,1-bis(p-chlorophenyl)-2,2,2-trichloroethane and applied to a Si wafer. Exposure to KrF excimer laser and development with Me4NOH soln. gave pattern with 1.0-.mu.m resoln. and 53 mJ/cm2 sensitivity.

IT 50-29-3, uses and miscellaneous  
(acid-generating agent, diazo-contg. radiation **resists** contg., for high sensitivity)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-022

ICS H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **photoresist** sensitive acid generating agent; diazo radiation **resist** high sensitivity

IT **Resists**  
(radiation-sensitive, diazo-contg., acid-generating agents contained in, for high sensitivity)

IT 50-29-3, uses and miscellaneous 313-39-3 1678-43-9 57835-99-1

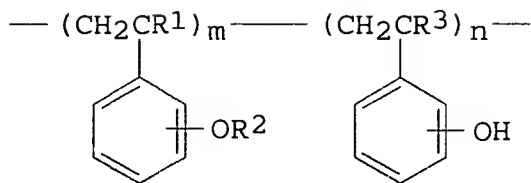
(acid-generating agent, diazo-contg. radiation **resists** contg., for high sensitivity)

IT 95736-23-5 116418-89-4  
(pos.-working radiation **resists** contg. acid-generating agents and, for high sensitivity)

L41 ANSWER 18 OF 35 HCA COPYRIGHT 2003 ACS on STN

113:106454 **Photoresist** compositions. Todoko, Masaaki; Yamamoto, Takashi; Nagaoka, Noriko; Kyota, Toru (Tosoh Corp., Japan). Jpn. Kokai Tokkyo Koho JP 02062544 A2 19900302 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-213583 19880830.

GI



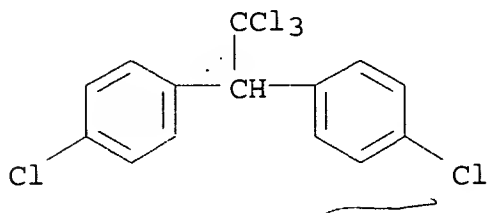
I

AB Pos.-working **photoresists** consist of polymers I [R1, R3 = H, C1-5-alkyl; R2 = C1-10-alkyl; 0.1.gtoeq.(m+n).gtoreq.1], and acid-generating agents activated by active radiations. These **photoresists** provide fine pattern with good profile, using deep UV or excimer laser beam for patterning. Thus, 3 g poly(p-butoxystyrene) and 0.13 g 1,1-bis(p-chlorophenyl)-2,2,2-trichloroethane in cyclohexanone was applied on Si wafer and dried to form a 1-.mu.m-thick layer. Patterning of this **resist** with KrF excimer laser and development with aq. Me4NOH gave pattern with 0.75-.mu.m resoln, with 73 mJ/cm2 dose.

IT 50-29-3, uses and miscellaneous  
(photochem. acid generator, **photoresists** contg.  
polymers of styrene derivs. and, for patterning with deep UV or excimer laser)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-004

ICS G03F007-023; G03F007-039; G03F007-20

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38

ST **photoresist** pos working excimer laser; styrene derivs  
polymer pos **photoresist**; patterning pos **resist**  
acid generator

IT **Resists**

(photo-, pos.-working, polymers of styrene derivs., for patterning with deep UV or excimer laser)

IT 50-29-3, uses and miscellaneous 313-39-3 1678-43-9  
57835-99-1

(photochem. acid generator, **photoresists** contg.)

polymers of styrene derivs. and, for patterning with deep UV or excimer laser)

IT 95418-60-3, Poly(p-tert-butoxystyrene) 128761-29-5,  
p-Hydroxystyrene-p-isopropoxystyrene copolymer  
(**photoresists** contg. acid-generators and, for  
patterning with deep UV or excimer laser)

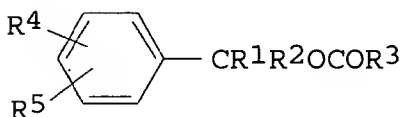
L41 ANSWER 19 OF 35 HCA COPYRIGHT 2003 ACS on STN

112:226815 Positive-working **photoresist** compositions.

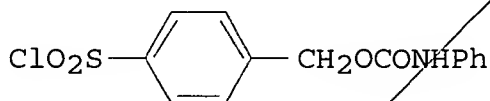
Yamamoto, Takashi; Kyota, Toru; Todoko, Masaaki; Nagaoka, Keiko  
(Tosoh Corp., Japan). Jpn. Kokai Tokkyo Koho JP 01300250 A2

19891204 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP  
1988-130075 19880530.

GI



I



II

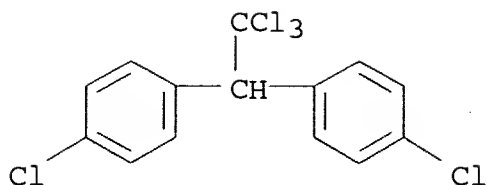
AB The title compns contain (a) alkali-sol. resins contg. siloxy groups, (b) sensitizers I [R<sup>1</sup>-2 = H, alkyl, R<sup>6</sup>-substituted Ph, R<sup>7</sup>/R<sup>8</sup>- disubstituted naphthyl; R<sup>3</sup> = alkyl, alkenyl, hydroxyalkyl, R<sup>16</sup>-substituted Ph, R<sup>17</sup>/R<sup>18</sup>-disubstituted naphthyl, alkylamino, R<sup>26</sup>-substituted phenylamino, R<sup>27</sup>/R<sup>28</sup>-disubstituted naphthylamino; R<sup>4</sup>-5 = H, alkyl, alkoxy, NO<sub>2</sub>, nitroso, NH<sub>2</sub>, OH, Ph; R-groups excepting R<sup>1</sup>-5 = H, alkyl, alkoxy, NO<sub>2</sub>, nitroso, NH<sub>2</sub>, OH, Ph], and (c) photo-activated acid-generating compds. These **resists** are transparent to deep UV and provide highly resolved **resist** pattern with good profile. Thus, poly(p-hydroxystyrene) was treated with trimethylchlorosilane to obtain polymer with 32 mol% p-trimethylsiloxystyrene unit. A soln. contg. this polymer 6.0, II 1.2, and 1,1-di(p-chlorophenyl)-2-trichloroethane 0.3/g was applied on Si wafer, and the layer was prebaked, patternwise exposed with KrF excimer laser, developed with aq. Me<sub>4</sub>NOH, and rinsed in water, to obtain a pattern with rectangular profile resolving 0.5-.μ., with sensitivity 128 mJ/cm<sup>2</sup>.

IT 50-29-3, uses and miscellaneous

(**photoresists** contg. siloxy-contg. polymers and sensitizers and, for deep-UV patterning)

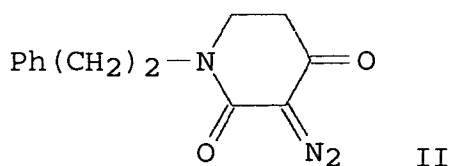
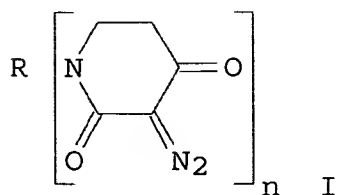
RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



- IC ICM G03C001-72  
ICS G03C001-71  
ICA G03C005-16  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38  
ST **photoresist** siloxy modified polyhydroxy styrene; UV excimer laser **photoresist** sensitizer  
IT **Resists**  
(photo-, poly(p-hydroxystyrene), siloxy-contg., sensitizer and acid-generating agents for, for patterning with deep UV)  
IT 50-29-3, uses and miscellaneous 1678-43-9 80134-77-6 104434-07-3  
(**photoresists** contg. siloxy-contg. polymers and sensitizers and, for deep-UV patterning)  
IT 39508-04-8 125091-03-4  
(**photoresists** contg. siloxy-contg. polymers and, for patterning with deep UV)  
IT 75-77-4D, Trimethylchlorosilane, reaction products with hydroxyphenyl-contg. polymers 9016-83-5D, Cresol-formaldehyde copolymer, reaction product with trimethylchlorosilane 24979-70-2D, Poly(p-hydroxystyrene), reaction product with trimethylchlorosilane 24979-71-3D, p-Hydroxystyrene-methyl methacrylate copolymer, reaction product with trimethylchlorosilane 51032-74-7D, reaction product with trimethylchlorosilane  
(**photoresists** contg., for patterning with deep UV)  
L41 ANSWER 20 OF 35 HCA COPYRIGHT 2003 ACS on STN  
112:226814 Positive-working **photoresist** compositions.  
Yamamoto, Takashi; Kyota, Toru; Todoko, Masaaki; Nagaoka, Keiko (Tosoh Corp., Japan). Jpn. Kokai Tokkyo Koho JP 01300249 A2 19891204 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-130074 19880530.

GI



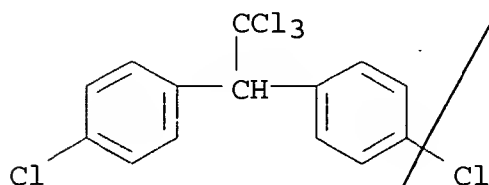
AB The title compns. contain (a) alkali-sol. resins contg. siloxy groups, (b) diazohomotetramic acid derivs. I (R = n-valent org. group; n = 1-6), and (c) photo-activated acid-generating compds. These **resists** are transparent to deep UV and provide highly resolved **resist** pattern with good profile. Thus, poly(p-hydroxystyrene) was treated with trimethylchlorosilane to obtain polymer with 32 mol% p-trimethylsiloxystyrene unit. A soln. contg. this polymer 6.0, II 1.2, and 1,1-di(p-chloro phenyl)-2-trichloroethane 0.3 g was applied on Si wafer, and the layer was prebaked, patternwise exposed with KrF excimer laser, developed with aq. Me<sub>4</sub>NOH, and rinsed in water, to obtain a pattern with rectangular profile resolving 0.5-.mu., with sensitivity 118 .mu.J/cm<sup>2</sup>.

IT 50-29-3, uses and miscellaneous

(**photoresists** contg. siloxy-contg. polymers and sensitizers and, for deep-UV patterning)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03C001-72

ICS G03C001-71

ICA G03C005-16

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

ST **photoresist** alkylsiloxystyrene polymer; UV excimer laser

**photoresist** sensitizer

IT **Resists**

(photo-, poly(hydroxystyrene), siloxy-contg., sensitizers and acid-generating agents for, for patterning with deep UV)

IT 50-29-3, uses and miscellaneous 1678-43-9 80134-77-6 104434-07-3

(**photoresists** contg. siloxy-contg. polymers and sensitizers and, for deep-UV patterning)

IT 95736-23-5 127067-15-6

(**photoresists** contg. siloxy-contg. polymers and, for patterning with deep UV)

IT 75-77-4D, Trimethylchlorosilane, reaction products with hydroxyphenyl-contg. polymers 9016-83-5D, Cresol-formaldehyde copolymer, reaction product with trimethylchlorosilane 24979-70-2D, Poly(p-hydroxystyrene), reaction product with

trimethylchlorosilane 24979-71-3D, p-Hydroxystyrene-methyl methacrylate copolymer, reaction product with trimethylchlorosilane 51032-74-7D, reaction product with trimethylchlorosilane (**photoresists** contg., for patterning with deep UV)

L41 ANSWER 21 OF 35 HCA COPYRIGHT 2003 ACS on STN

112:207989 Positive-working **photoresist** compositions.

Yamamoto, Takashi; Kyota, Tooru; Todoko, Masaaki; Nagaoka, Keiko (Tosoh Corp., Japan). Jpn. Kokai Tokkyo Koho JP 01300248 A2 19891204 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-130073 19880530.

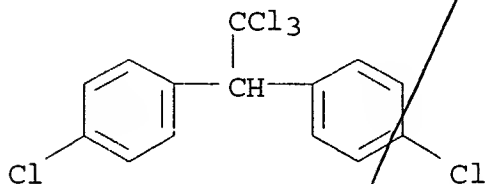
AB The title compns. contain (a) alkali-sol. resins contg. siloxy groups, (b) sensitizers R1COC(:N2)COR2 [R1 = alkyl, R3-substituted Ph, R4, R5 = disubstituted naphthyl; R2 = alkyl, alkenyl, hydroxyalkyl, R13-substituted Ph, R14, R15 = disubstituted naphthyl, alkoxy, R23-substituted phenoxy, R24, R25 = disubstituted naphthoxy, alkylamino, R33-substituted phenylamino, R34, R35 = disubstituted naphthylamino; R-groups excepting R1-2 = H, alkyl, alkoxy, NO2, nitroso, NH2, OH, Ph], and (c) photo-activated acid-generating compds. These **resists** are transparent to deep UV and provide highly resolved **resist** pattern with good profile. Thus, poly(p-hydroxystyrene) was treated with trimethylchlorosilane to obtain polymer with 32 mol% p-trimethylsiloxystyrene unit. A soln. contg. this polymer 6.0, PhCOC(:N2)COOEt 1.2, and 1,1-di(p-chlorophenyl)-2-trichloroethane 0.3 g was applied on Si wafer, and the layer was prebaked, pattern-wise exposed with KrF excimer laser, developed with aq. Me4NOH, and rinsed in water, to obtain a pattern with rectangular profile resolving 0.5-.mu., with sensitivity 121 mJ/cm2.

IT 50-29-3, uses and miscellaneous

(**photoresists** contg. siloxy-contg. polymers and sensitizers and, for deep-UV patterning)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03C001-72

ICS G03C001-71

ICA G03C005-16

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

ST **photoresist** siloxy modified polyhydroxy styrene; UV excimer laser **photoresist** sensitizer

IT **Resists**

(photo-, poly(hydroxystyrene), siloxy-contg., sensitizers and acid-generating agents for, for patterning with deep UV)

IT 50-29-3, uses and miscellaneous 1678-43-9 80134-77-6  
104434-07-3

(photoresists contg. siloxy-contg. polymers and sensitizers and, for deep-UV patterning)

IT 28383-65-5 126948-12-7

(photoresists contg. siloxy-contg. polymers and, for patterning with deep UV)

IT 75-77-4D, Trimethylchlorosilane, reaction products with hydroxyphenyl-contg. polymers 9016-83-5D, Cresol-formaldehyde copolymer, reaction product with trimethylchlorosilane 24979-70-2D, Poly(p-hydroxystyrene), reaction product with trimethylchlorosilane 24979-71-3D, p-Hydroxystyrene-methyl methacrylate copolymer, reaction product with trimethylchlorosilane 51032-74-7D, reaction product with trimethylchlorosilane  
(photoresists contg., for patterning with deep UV)

L41 ANSWER 22 OF 35 HCA COPYRIGHT 2003 ACS on STN

111:67941 Silylated poly(vinylphenol) **photoresist**.

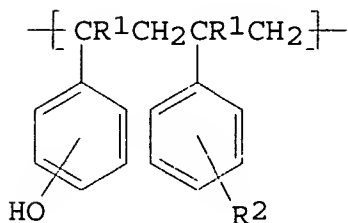
Cunningham, Wells Crassous (Shipley Co., Inc., USA). Eur. Pat.

Appl. EP 285025 A2 19881005, 13 pp. DESIGNATED STATES: R: DE, FR,

GB, IT. (English). CODEN: EPXXDW. APPLICATION: EP 1988-104834

19880325. PRIORITY: US 1987-32420 19870330.

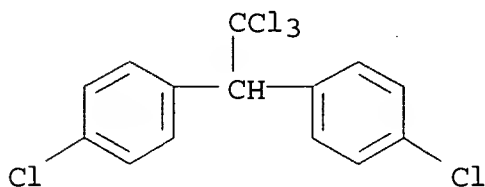
GI



AB A pos.- or neg.-working **photoresist** which is used in the fabrication of semiconductor and electronic devices utilizing the photolithog. process comprises a silylated polymer having the structural unit I [R1 = H, Me; R2 = OH, ZSiR3R4R5 where Z = O, O(CH2)n with n = 1-4; R3, R4, R5 = C1-4 alkyl, aryl, benzyl] and a mol. wt. of 2700-22,000 and a Si content of 3-12% and .gtoreq.1 acid-forming sensitizer comprising a nonmetallic compd. which releases an acid upon light irradsn., the anion of the acid having an affinity for Si. The silylated polymer used in the **photoresist** is prepd. by silylating poly(vinylphenol). The acid-forming sensitizer is selected from 1,1-bis(4-chlorophenyl)-2,2,2-trichloroethane, tris(2,3-dibromopropyl)isocyanurate, tetrabromocyclohexadione, tetraiodomethane, 2,3,5-triiodobenzoic acid, and diiodosalicylic acid. The **photoresist** may also

contain a 2nd sensitizer selected from esters and amides of o-quinonediazide sulfonic or carboxylic acids. The **resist** pattern obtained from the **photoresist** may be subjected to an O plasma to form a SiO<sub>2</sub> dielec. layer.

IT 50-29-3, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, properties  
(**photoresist** contg. silylated poly(vinylphenol) and)  
RN 50-29-3 HCA  
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-10  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 76  
ST **photoresist** silylated vinylphenol polymer  
IT Semiconductor devices  
(**photoresist** compns. contg. silylated poly(vinylphenol) and acid-forming sensitizer for fabrication of)  
IT **Resists**  
(photo-, contg. silylated poly(vinylphenol) and acid-forming sensitizer)  
IT 59269-51-1D, reaction product of, with alkyl silanes  
(**photoresist** contg. acid-forming sensitizer and)  
IT 1321-04-6 52434-90-9, Tris(2,3-dibromopropyl)isocyanurate  
120705-57-9  
(**photoresist** contg. silylated poly(vinylphenol) and)  
IT 50-29-3, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, properties 88-82-4, 2,3,5-Triiodobenzoic acid 507-25-5, Carbon tetraiodide  
(**photoresist** contg. silylated poly(vinylphenol) and)  
IT 879-15-2D, derivs.  
(**photoresist** contg. silylated poly(vinylphenol) and acid-forming sensitizer and)

=> d 142 1-26 ti

L42 ANSWER 1 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Modified yeast two-hybrid assay to evaluate the estrogenic activity of environmental samples

L42 ANSWER 2 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Selective cellular targeting: multifunctional delivery vehicles



- L42 ANSWER 3 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Studies on development of protective clothing for pesticide users - application of pesticides, clothing used by the malaria control program workers and their related health problems
- L42 ANSWER 4 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Immunochemical approach to the detection of aminotriazoles using selective amino group protection by chromophores
- L42 ANSWER 5 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Protective effectiveness of functional additions to motor oils
- L42 ANSWER 6 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI An electrophysiological investigation of the susceptible (Cooper) and resistant (kdr; super-kdr) strains of the adult housefly, *Musca domestica* L
- L42 ANSWER 7 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Formation of patterned polymer layers
- L42 ANSWER 8 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Effects of 1,1,1-trichloro-2,2-bis-(p-chlorophenyl)ethane (DDT) on ATPase-linked functions in isolated rat liver mitochondria
- L42 ANSWER 9 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Persistence and transfer of <sup>36</sup>Cl-DDT in the soil and biota of an old-field ecosystem: a six-year balance study
- L42 ANSWER 10 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Effect of body weight on lethal dose estimates for the western spruce budworm
- L42 ANSWER 11 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Mineral and organic pollutants in sample sediments between Corsica and the main land (Mission BIOMEDE 1)
- L42 ANSWER 12 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI In vitro effects of organochlorine pesticide (DDT) on catalytic potential of SDH in gastrocnemius muscle of frog, *Rana hexadactyla*
- L42 ANSWER 13 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Antiwear and antiseize additives for complex calcium lubricating greases
- L42 ANSWER 14 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Activity of some enzymes of tissue respiration in developing resistance to DDT in *Musca domestica* in the presence of sublethal doses
- L42 ANSWER 15 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Degradation and disappearance of ortho, para isomer of technical DDT

in living and dead avian tissues

- L42 ANSWER 16 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Outbreaks of two-spotted spider mites and cotton aphids following pesticide treatment. I. Pest stimulation vs. Natural enemy destruction as the cause of outbreaks
- L42 ANSWER 17 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Collaborative study of a method for multiple chlorinated pesticide residues in nonfatty vegetables
- L42 ANSWER 18 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Toxicity of economic poisons toward man and warm-blooded animals
- L42 ANSWER 19 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Control of houseflies with methoxychlor in Texas dairy barns
- L42 ANSWER 20 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI [Floriculture] pest control 1951-outlook for 1952
- L42 ANSWER 21 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Aerosols for control of pests in the greenhouse
- L42 ANSWER 22 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Experimental lesions from petroleum sprays
- L42 ANSWER 23 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI A new insecticide to control turf insects
- L42 ANSWER 24 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Cyclocephala borealis as a turf pest associated with the Japanese beetle in New York
- L42 ANSWER 25 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI Toxicity of DDT applied to limewash
- L42 ANSWER 26 OF 26 HCA COPYRIGHT 2003 ACS on STN  
TI DDT-caution

=> d l42 7 cbib abs hitstr hitind

- L42 ANSWER 7 OF 26 HCA COPYRIGHT 2003 ACS on STN  
107:68154 Formation of patterned polymer layers. Kuwae, Yoko; Haruta, Masahiro; Yuasa, Satoshi; Munakata, Hirohide (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 61290445 A2 19861220 Showa, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-132489 19850618.
- AB The title formation method involves coating of substrates with a silane coupling agent that produces free radicals by irradiation, coating with monomer, and patterning by selective irradiation. The nature of the polymer layer can be freely controlled and the layer formed are strongly bonded to the substrates. Thus, a glass plate

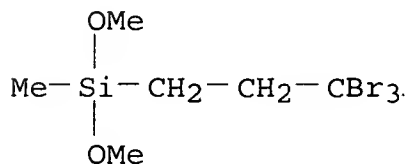
was immersed in EtOH contg. 50 mmol Br(CH<sub>2</sub>)<sub>3</sub>Si(OMe)<sub>3</sub> (per 100 mL) and 5% HOAc for 24 h and dried. A 1- $\mu$ . layer of Me acrylate was spin-coated and exposed to 300 nm UV through a pattern **mask**. Rinsing in acetone-ethyl ether gave apolymer pattern.

IT 109678-78-6

(pattern formation with undercoat layer from)

RN 109678-78-6 HCA

CN Silane, dimethoxymethyl(3,3,3-tribromopropyl)- (9CI) (CA INDEX NAME)



IC ICM G03C001-74

ICS C08F002-48; G03C005-00; G03F007-16; H01L021-30

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 14867-28-8 109678-78-6

(pattern formation with undercoat layer from)

**WEST****End of Result Set**

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L8: Entry 2 of 2

File: DWPI

Nov 6, 1974

DERWENT-ACC-NO: 1975-46668W  
DERWENT-WEEK: 197528  
COPYRIGHT 2003 DERWENT INFORMATION LTD

TITLE: Crystal pattern coating compn - contg butylphenol salicylate and/or  
trichloromethyl-benzylacetate and fine silica

## PATENT-ASSIGNEE:

ASSIGNEE

CODE

OHASHI CHEM IND LTD

OHASN

PRIORITY-DATA: 1973JP-0029264 (March 12, 1973)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 49116135 A	November 6, 1974		000	
JP 76020048 B	June 22, 1976		000	

INT-CL (IPC): C09D 5/28

ABSTRACTED-PUB-NO: JP 49116135A

## BASIC-ABSTRACT:

The coating compsn. contains p-tert.-butylphenyl salicylate (I) and/or (trichloromethyl)benzyl acetate (II), org. solvents, binders pigments, and fine silica. In an example, a compsn. of 50% solids acrylic resin 200, blue pigments 7, fine silica 1, (I) 60, (II) 120, EtOAc 480, 1,4-butanediol 280, and hexamethylene glycol 100g. at 40-50 degrees was applied to a Zn<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>-treated steel and left 30 mins. for crystalsn. The plate was top coated with a mixt. of oil-free alkyd resin 480, butylated melamine resin 120, and TiO<sub>2</sub> 400 g., left 5-10 mins., and baked 30 mins. at 120 degrees to give a coating with crystal pattern.

TITLE-TERMS: CRYSTAL PATTERN COATING CONTAIN SALICYLATE FINE SILICA

DERWENT-CLASS: A82 E14 G02

CPI-CODES: A12-B01; E10-E02F; E10-G02F; E31-P03; G02-A05;

## CHEMICAL-CODES:

Chemical Indexing M3 \*01\*

## Fragmentation Code

J2 M121 M136 M210 M211 M231 M233 M240 M260 M281  
M311 M332 M331 M322 M320 M342 M340 M344 M350 M370  
M391 G100 M532 M531 H401 H441 J231 J271 H602 H609  
M510 J0 Q335 Q337 M520 M540 Q464 M782 R043 M414  
M902

Chemical Indexing M3 \*02\*

## Fragmentation Code

C800 C108 C803 C802 C807 C805 C804 B720 B831 B114  
B702 Q335 Q337 Q464 M782 R043 M411 M902

Multipunch Codes: 012 03& 04- 043 074 139 143 146 185 189 229 231 240 305 308 310 316 332 364  
365 398 42- 431 44& 443 47& 477 575 577 688 721

**WEST**

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L7: Entry 1 of 26

File: USPT

Dec 3, 2002

DOCUMENT-IDENTIFIER: US 6489273 B1

TITLE: Fragrance compositions containing 2-cyclohexyl-1,1-dimethyl ethanol esters

Detailed Description Paragraph Table (2):

TABLE 2 geranium oil 15 patchouly oil 15 decylaldehyde 10 10-undecenyl aldehyde 20  
gamma-undecalactone 5 styrallyl acetate 20 phenyl ethyl alcohol 150 1-citronellol  
100 benzyl acetate 50 2-methyl-3-(4-t-butylphenyl) propanal 100 eugenol 30  
gamma-methyl ionone 100 alpha-(trichloromethyl) benzyl acetate 30 3 alpha, 6,6,9  
alpha-tetramethyl 5 dodecahydronaphtho[2,1-b] furan 10% DPG solution coumarin 50  
6-acetyl-1,1,2,4,4,7-hexamethyltetralin 50 750

**WEST**☐ **Generate Collection** **Print**

L7: Entry 10 of 26

File: USPT

Dec 30, 1997

DOCUMENT-IDENTIFIER: US 5703250 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Odorants

Detailed Description Paragraph Table (5):

\_\_\_\_\_ parts by Ingredient weight

(1RS,2SR,4RS)-2'-Isopropyl-1,7,7-trimethyl-spiro[bicyclo-  
[2.2.1]heptane-2,4'-(1,3-dioxane)] (compound 1h) 30 Benzyl acetate 60 Linalyl  
acetate 3 Para-tert-butylcyclohexyl acetate 150 Phenylethyl alcohol 85 .alpha.-Hexyl  
cinnamic aldehyde 126 Cyclamen aldehyde 5 Alismone (2-Heptyl-cyclopentanone) 1  
Anethole 2 Benzophenone 12 Cetalex 1 Citronellol 15 Cyclal C\*  
(2,4-Dimethyl-3-cyclohexene-1-carbaldehyde) 8 Dihydromyrcenol 23 Dipropylene glycol  
140 Ethylvanillin\* 3 Fixolide 12 cis-3-Hexenyl formate 1 Galaxolide  
(1,3,4,6,7,8-Hexahydro-4,6,6,7,8,8-hexamethyl- 60 cyclopenta-[g]-2-benzopyran) 50  
DEP (diethyl phthalate) Galbex 183 5 Gardenol 3 Hedione 10 3-cis-Hexenol\* 10  
.beta.-Ionone 8 Isoeugenol 10 Lavandin grosso essence 6 Lilial 120 Linalool synth. 3  
Musk ketone 5 N. 112\* (4-(4-Hydroxyphenyl)butan-2-one) 4 Nerol extra 4 Nonadienal 1%  
sol. in triethyl citrate 3 Allyl oenanthate 10 Orange essence 45 Peach pure  
(.gamma.-Undecalactone) 5 Phenylethyl phenylacetate 6 Rosacetol  
(.alpha.-(trichloromethyl)benzyl acetate) 25 Rosaphen 25 Rosoflor 2 (Geraniol) 5  
Amyl salicylate 65 Cyclohexyl salicylate 45 cis-3-Hexenyl salicylate 5 Hexenyl  
salicylate 110 Tetrahydrolinalool 6 1280 \_\_\_\_\_ \*10%  
solution in dipropylene glycol

**WEST**

☐ Generate Collection Print

L7: Entry 11 of 26

File: USPT

Sep 16, 1997

DOCUMENT-IDENTIFIER: US 5668080 A

TITLE: Thermally-responsive record material

Brief Summary Text (16):

While the benzyl acetate used in the invention is a known material described in such patents as U.S. Pat. Nos. 5,180,709 and 5,214,160 it has heretofore been used in the context of perfumes. Surprisingly the material has remarkable properties beneficial to manufacture of improved thermal record material according to the invention. Benzyl acetate according to formula 1 is commercially available from chemical specialty manufacturers such as Aldrich Chemical, Milwaukee, Wis., alternatively would be able to be synthesized by one skilled in the art. The benzyl acetate can be named as 7-(trichloromethyl)-benzyl acetate. This material can be synthesized from benzyl acetate for example by condensing benzyl acetate with a trichloromethyl alcohol. Other synthetic routes would be apparent to the artisan having skill in the synthetic arts. The invention resides in the surprising combination of this material within a thermally imaged record material.

Detailed Description Paragraph Table (1):

Dispersion A - Chromogenic Material is N-102 3-diethylamino-6-methyl-7-anilino-fluoran Parts N-102 94.95 PVA, Vinoll 205 20% in Water 81.00 Nopco NDW 0.23 Surfynol 104 1.13 Water 122.69 Dispersion B - Acidic Material is AP-5 2,2-bis(4-hydroxyphenyl)-4-methylpentane AP-5 102.00 PVA, Vinol 205 20% in Water 87.00 Nopco NDW 0.12 Surfynol 104 0.48 Water 153.26 Dispersion C1 - Sensitizer is ROSA 7-(trichloromethyl)-benzyl acetate ROSA 89.25 PVA, vinol 205, 20% in water 76.13 Nopco NDW 0.11 Surfynol 104 0.42 Water 134.09 Dispersion C2 - Sensitizer is DPE 1,2-diphenoxyethane DPE 89.25 PVA, Vinol 205 20% in Water 76.13 Nopco NDW 0.11 Surfynol 104 0.42 Water 134.09 Dispersion C3 - Sensitizer is DMT dimethylterephthalate DMT 89.25 PVA, vinol 205, 20% in water 76.13 Nopco NDW 0.11 Surfynol 104 0.42 Water 134.09 Dispersion C4 - Sensitizer is DBO di-benzyl oxalate DBO 89.25 PVA, vinol 205, 20% in water 76.13 Nopco NDW 0.11 Surfynol 104 0.42 Water 134.09 Dispersion C5 - Sensitizer is PHNT phenyl-1-hydroxy-2-naphthoate PHNT 89.25 PVA, vinol 205, 20% in water 76.13 Nopco NDW 0.11 Surfynol 104 0.42 Water 134.09 Dispersion C6 - Sensitizer is PBBP p-benzyl biphenyl PBBP 89.25 PVA, vinol 205, 20% in water 76.13 Nopco NDW 0.11 Surfynol 104 0.42 Water 134.09 Test Formulation Material Parts Example 1 Dispersion A (N102) 0.75 Dispersion B (AP-5) 2.69 Dispersion C1 (ROSA) 2.69 Filler 1.12 PVA, Vinol 325, 10% 4.87 Zinc stearate, 23.3% 1.03 Water 6.85 Example 2 (comparative) Dispersion A (N102) 0.75 Dispersion B (AP-5) 2.69 Dispersion C2 (DPE) 2.69 Filler 1.12 PVA, Vinol 325, 10% 4.87 Zinc stearate, 23.3% 1.03 Water 6.85 Example 3 (comparative) Dispersion A (N102) 0.75 Dispersion B (AP-5) 2.69 Dispersion C3 (DMT) 2.69 Filler 1.12 PVA, Vinol 325, 10% 4.87 Zinc stearate, 23.3% 1.03 Water 6.85 Example 4 (comparative) Dispersion A (N102) 0.75 Dispersion B (AP-5) 2.69 Dispersion C4 (DBO) 2.69 Filler 1.12 PVA, Vinol 325, 10% 4.87 Zinc stearate, 23.3% 1.03 Water 6.85 Example 5 (comparative) Dispersion A (N102) 0.75 Dispersion B (AP-5) 2.69 Dispersion C5 (PHNT) 2.69 Filler 1.12 PVA, Vinol 325, 10% 4.87 Zinc stearate, 23.3% 1.03 Water 6.85 Example 6 (comparative) Dispersion A (N102) 0.75 Dispersion B (AP-5) 2.69 Dispersion C6 (PBBP) 2.69 Filler 1.12 PVA, Vinol 325, 10% 4.87 Zinc stearate, 23.3% 1.03 Water 6.85

10 Day 10 Day 10 Day			60 C. 40 C. -90% RH UV Light Fingerprint 24 hr		
-17.00%	-10.00%	-31.00%	Example 1	-16.00%	
-29.10%	-21.66%	-29.89%	Example 2	-20.00%	-19.00%
-23.64%	-21.11%	-30.18%	Example 3	-18.51%	
			Example 4	-26.00%	-22.00%
			Example 5	-22.73%	-31.08%
			Example 6	-26.00%	-21.84%
				-29.87%	

Note: The lower % change the more stable

CLAIMS:



9. A thermally responsive record material comprising a support having provided thereon in substantially contiguous relationship an electro-donating dye precursor, an acidic developer material, 7-(trichloromethyl)benzyl acetate, and a suitable binder therefore.

**WEST**

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L7: Entry 12 of 26

File: USPT

May 25, 1993

DOCUMENT-IDENTIFIER: US 5214160 A

TITLE: Acetyl-tri-and-tetramethyl-octahydronaphthalenes and fragrance compositions containing same

Brief Summary Text (15):

esters, such as allyl phenoxyacetate, benzyl salicylate, cinnamyl propionate, citronellyl acetate, citronellyl ethoxalate (citronellyl.O--CO--CO.OC.sub.2 H.sub.5), decyl acetate, dimethylbenzylcarbinyl acetate, dimethylbenzylcarbinyl butyrate, ethyl acetoacetate, ethyl acetylacetate, hexenyl isobutyrate, linalyl acetate, methyl dihydrojasmonate, styrallyl acetate, vetiveryl acetate, (Givescone.TM. (Givaudan) 2-ethyl 6,6 dimethyl (and 2,3,6,6 tetramethyl) 2 cyclohexene 1-carboxylic acid ethyl ester, Rosacetol.TM. (Givaudan) (trichloromethyl benzyl acetate), Vetynal.RTM. (Givaudan) (acetylated caryophyllene).

**WEST****End of Result Set**

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L7: Entry 26 of 26

File: USPT

Jan 25, 1972

DOCUMENT-IDENTIFIER: US 3637533 A

TITLE: PERFUME-CONTAINING COMPOSITIONS CONTAINING CERTAIN OXIMES AS OLFACTORY AGENTS

Detailed Description Paragraph Table (24):

Citronellol 234 Phenylethyl alcohol 106 Geraniol 244 Rhodinol 96 Laurine 116  
Guaiacwood concrete 13 Eugenol 6 Irisone 58 Cinnamic alcohol 5 Phenylacetic acid 1  
Undecylenic aldehyde 1 .alpha.-(trichloromethyl) benzyl acetate 46 Citral 24  
3,7-dimethyloctanal oxime 50 Total 1,000